HOUSING IN
INUIT NOUVEAU-QUEBEC

URBAN DOCUMENTATION CENTRE
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MCMASTER UNIVERSITY
HAMILTON, ONTARIO

SOCIÉTÉ D'HABITATION DU QUÉBEC

HEMAI

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September 1980

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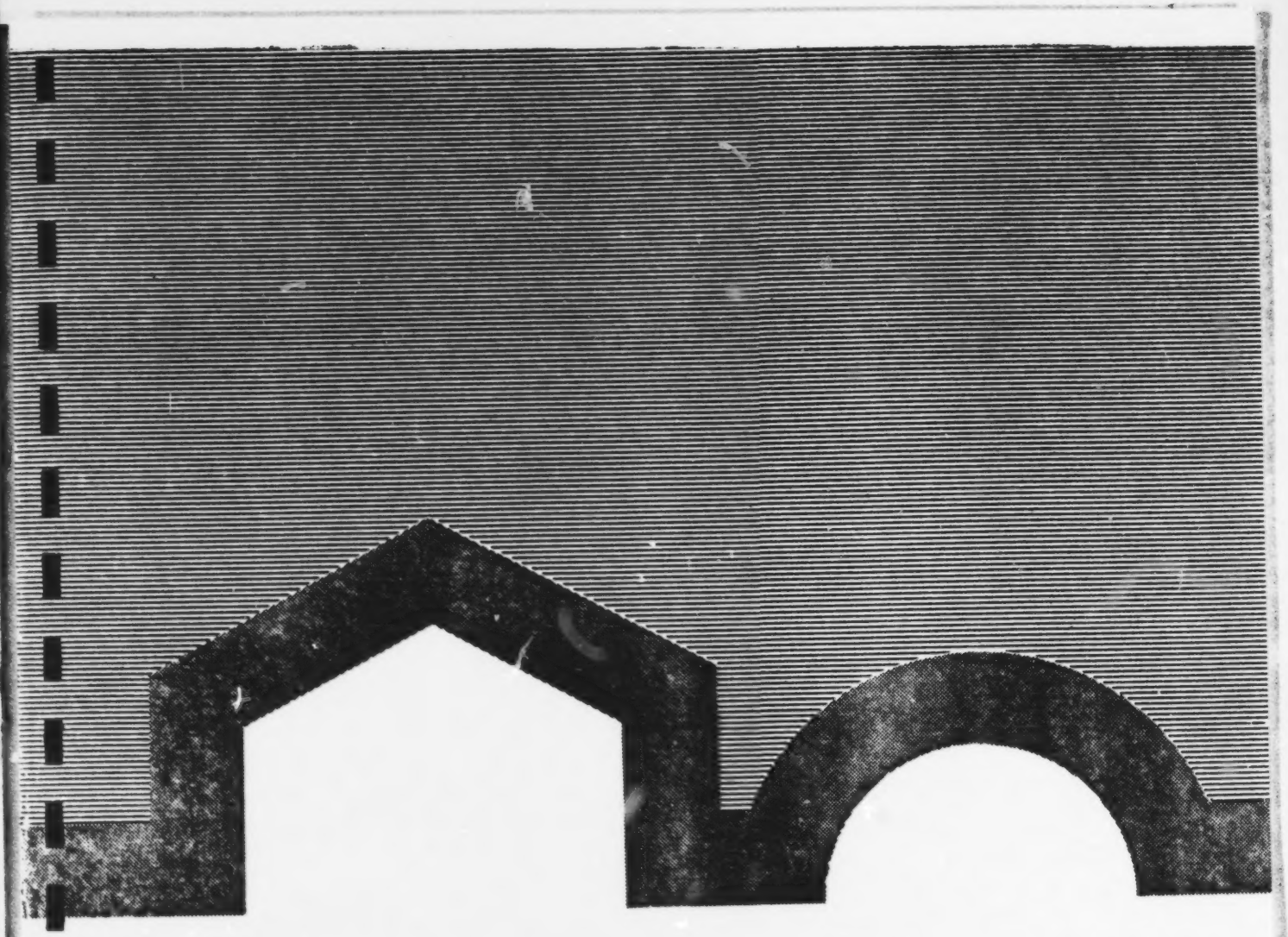

HABITATION AU NOUVEAU-QUEBEC

Société d'habitation du Québec

"The North is a frontier. It is a frontier for both men and ideas. The first priority for government in the North should be to enable its citizens to shelter their families and themselves in safety, comfort and dignity."[1]

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1 Taken from the Report of the Northwest Territories Council Task Force on Housing, June 1972.

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Ivujivik
Salluit
Kangiqsujuaq
Akulivik
Quaqtaq
UNGAVA BAY
Povungnituk
Kangiqsuk
Aupaluk
Inukjuak
Tasiujaq
Kangiqsualujjuaq
Kuujjuaq
HUDSON BAY
Kuujjuaraapik
Schefferville
Labrador
JAMES BAY
Ontario
Québec
N
0 50 100 200 km.
▲ Villages of Inuit Nouveau-Québec

INTRODUCTION

The purpose of this study is to give the reader as accurate a picture as possible of the housing conditions in Inuit Nouveau-Québec. It is hoped that this study will provide the mixed joint committee on housing above the 55th parallel[2] with the information necessary to prepare a policy and programs that correspond to the very particular features of this northern environment.

To this end, we will attempt to:

(a) review past government housing activity in Inuit Nouveau-Québec;

(b) make an inventory of the number and the quality of existing housing units and determine current and future needs;

(c) make an inventory of the procedures for building public housing;

(d) define the information needed to formulate a new government policy on housing in this environment.

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2 This committee will be made up of representatives of SAGMAI, the Kativik Regional Government and the SHQ.

CHAPTER I REVIEW OF PAST GOVERNMENT HOUSING ACTIVITY IN NOUVEAU-QUÉBEC

1.1 Federal Housing Programs

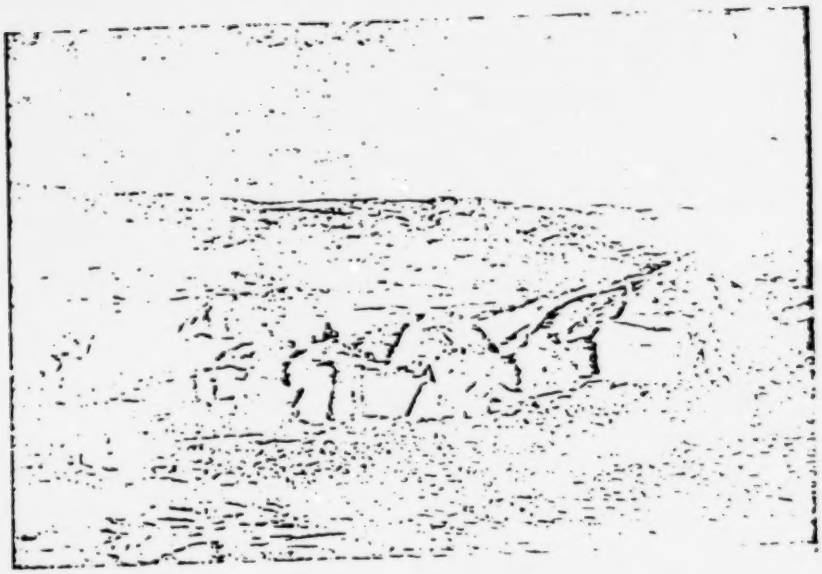
The Inuit were traditionally nomadic. Their temporary habitats varied with the seasons, and with the resources available on the lands over which they passed. They could thus be found scattered along the coasts searching for fish and game, living in tents in the summer and igloos in the winter. The frames of their tents consisted of pieces of driftwood or animal bones (whales, caribou, etc.) over which animal skins were stretched. And finally the snow, which was used both as a structural material and a covering, dictated that igloos be circular in form. All these shelters, because of their shape and their small size, were very cramped, and, over time and through contact with other civilizations, became conducive to the spread of disease, and were even responsible for epidemics that wiped out entire villages (see photos and Drawing 1).

1.1.1 First intervention

It was in 1950 that the Government of Canada made its first social intervention in the Far North by promoting programs to educate and employ the Native people. The introduction of schools (see Appendix

PHOTO NO. 1

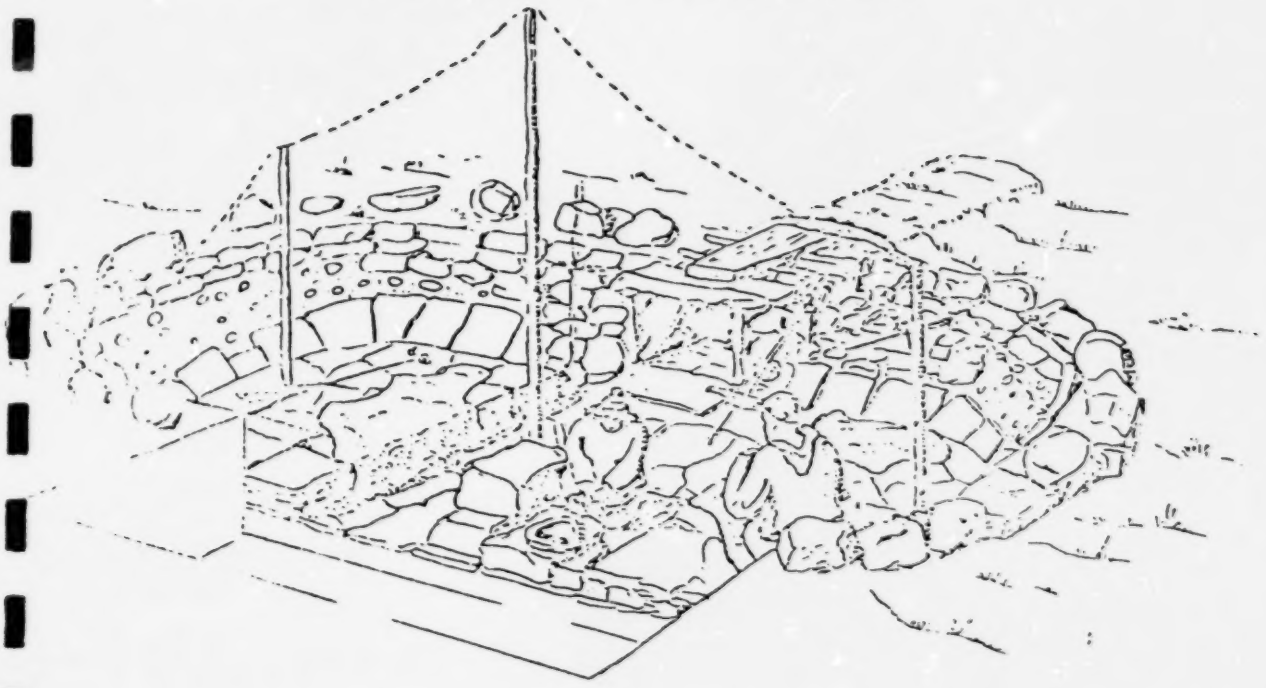
IGLOOS AT KANGIQSUJUAQ, 1950



SOURCE: S. Pageau Collection

DRAWING NO. 1

TRADITIONAL SEMI-UNDERGROUND HUT



SOURCE: S. Pageau Collection

E.1) saw this traditionally mobile people begin to adopt a sedentary style of life. The cramped, temporary shelters where several families were already crowded, became their permanent residences. They gravitated in large numbers around these new points of attraction, which were located close to trading posts. Overcrowding such as this led to the development of serious social and health problems. Concurrently with the growing interest shown by Whites in the new phenomenon of life in the North came the realization that the infant mortality rate among the Inuit across Canada was very high. Federal government officials suspected a possible link between the physical conditions in the Native dwellings and the high incidence of tuberculosis found among the Native people.

In 1960, a report entitled "Eskimo Mortality and Housing" was published. The report revealed that the Canadian Inuit were continually exposed to nests of major infections, and that the lack of heating in their dwellings, their poor diet and the absence of sanitary facilities created an environment

conducive to the development of fatal infections among the newborn. It was also revealed that the situation was made worse by the spread of these infections to the parents, who thus became incapable of providing the care the children needed, and that there was a total absence of medical services throughout the entire territory of northern Canada.

Some four years before the report appeared, the federal government had already set up a special housing program for the Native people living in the North. In 1958 the program was introduced at Povungnituk, Québec.

This property acquisition program was based on the following premise: to provide the Inuit with houses, the purchase cost of which, over a short period of time, would be kept to a minimum, in view of their very low incomes. The dimensions of the houses, set at 50 square feet per person, were quite small, thus reducing the heating costs to amounts Inuit families could afford. The long-term goal of the housing program, which relieved the government of its obligation to subsidize the costs of heating Native dwellings, was to establish a certain degree of autonomy among the Inuit. From the social point

of view, the program was designed to provide the Inuit with the instruments they needed to improve their living conditions, without creating among them a feeling of dependence on the government.

The seven houses built at Povungnituk under this program proved unsatisfactory. They were too narrow, and because the local peat and earth were inadequate as insulation materials, the result was a false saving. The stone walls failed to retain the heat and produced condensation. To achieve any sort of energy efficiency using locally available materials, it would have been necessary to build a second house inside the first, an operation which would have been too costly.

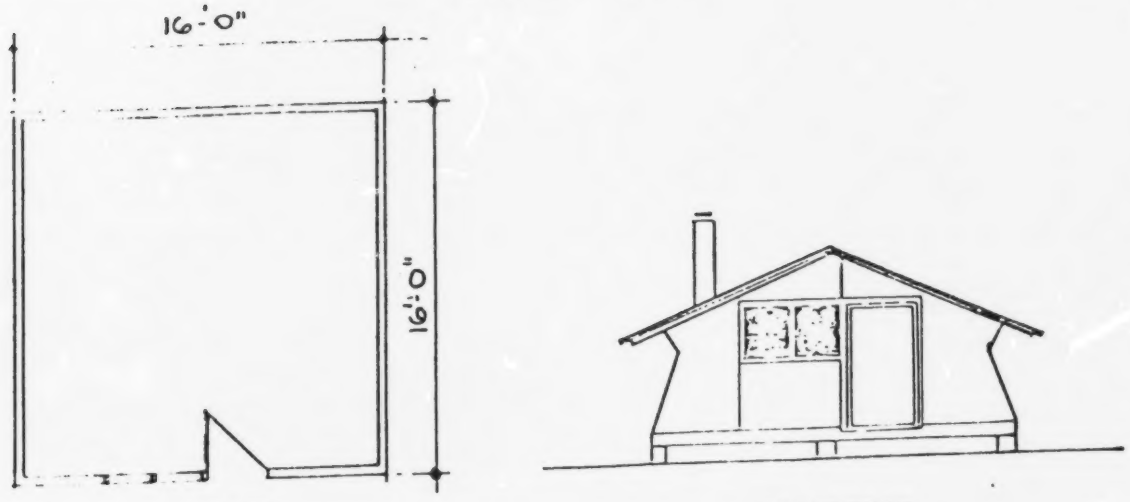
1.1.2 The Department of Indian and Northern Affairs

With the creation of the federal Department of Indian and Northern Affairs, two new types of houses for Inuit families on welfare were introduced across Canada between 1959 and 1965. The first, model "319", was built in the shape of a tent. The second, model "370", was built with prefabricated plywood panels enclosing three to four inches of

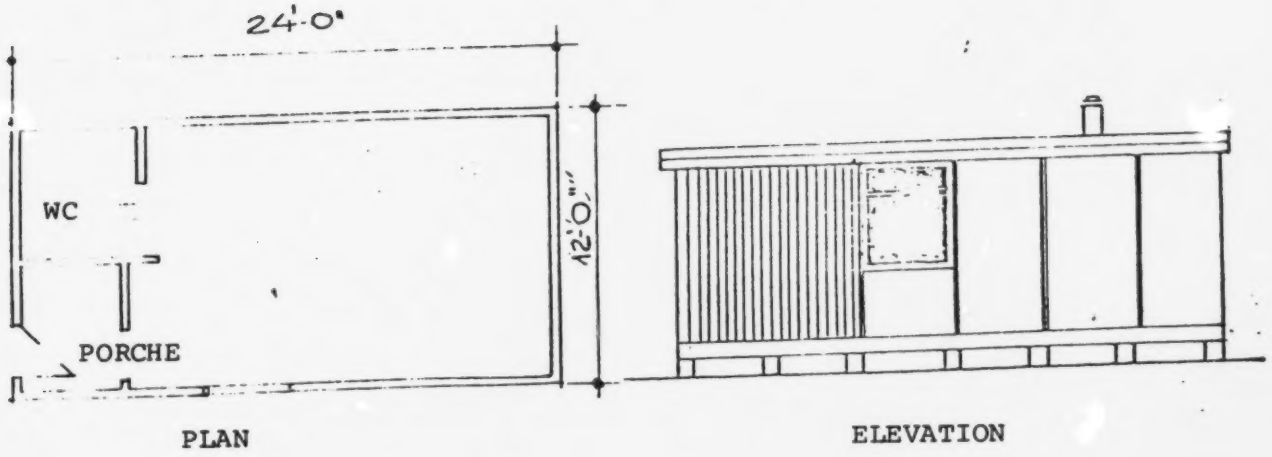
mineral wool, and was dubbed the "matchbox" (see Drawing 2). The rent charged for these houses represented the cost of the heating services provided. A second model, which contained two bedrooms and which was 512 square feet in total area, was made available to families who wished to own their own houses. The cost of these houses was to be repaid at 4% interest over a 20-year period. Home owners had to pay off their mortgages and pay the service costs. Very soon it was realized that these financial burdens were too heavy, both for the tenant on welfare and for the home owner. Neither was able to repay the heating costs, and owners were unable to make their mortgage payments. By 1965, it was calculated that 90% of the families who owned their houses were behind in their payments and that 50% of them had made only one small payment.

Because of their low incomes, the most that Inuit families could afford under the circumstances were small houses, 288 square feet in area (matchbox), which, in view of the size of the families, were clearly inadequate. In most cases, five or more persons could be found eating, sleeping and living in a single room.

DRAWING NO. 2



MODEL 319 - SURFACE AREA 256 squares feet



MODEL 370 - SURFACE AREA 288 squares feet

Although the government objective of 50 square feet per person under the first program was reached, this standard was much too low. Indeed, the inadequacy of this standard becomes apparent when it is compared to the American[3] and Canadian (CMHC) standard for overcrowding, that is, 1.01 or more persons per room. Also apparent, from the phenomenon of the unpaid mortgages and rents mentioned above, was the existence of a problem of family budget availability.

According to Canadian standards, the amount of a family's gross income available for its rent lies between 20% and 25%. For persons living alone and for persons over age 65, this percentage increases to 35%. These standards, which of course are based on urban housing, have little relevance in rural areas and even less in the Arctic regions. Nevertheless, we can identify two major problems facing the Native people: overcrowding in relation to the available housing, and budget availability.

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3 Tempo, G.E., "United States Housing Needs, 1968-1978", The Report of the President's Committee on Urban Housing, Technical Studies, Vol. 1, Washington D.C., U.S. Government Printing Office, 1967, pp. 1-36.

Since the infant mortality rate remains the same as it was before the housing program of the Department of Indian and Northern Affairs was introduced, it can be concluded that this program contributed little to improving health conditions among the Inuit.

1.1.3 Subsidized program

In 1965, the Department of Indian and Northern Affairs launched a subsidized housing program for the Inuit. The houses were increased in area from 512 square feet to 720 square feet (see Drawing 3, Model 455). At the same time, a parallel program, this one concerning household maintenance, was to be introduced to the people. Under this program, the Inuit families paid a rent equal to 20% of their family income instead of paying the cost of the services. Welfare or pension recipients paid a rent of between $2 and $37 for a one-room house, up to $42 for a one-bedroom house and up to $62 for a three-bedroom house. The services were subsidized and were included in the monthly rent.

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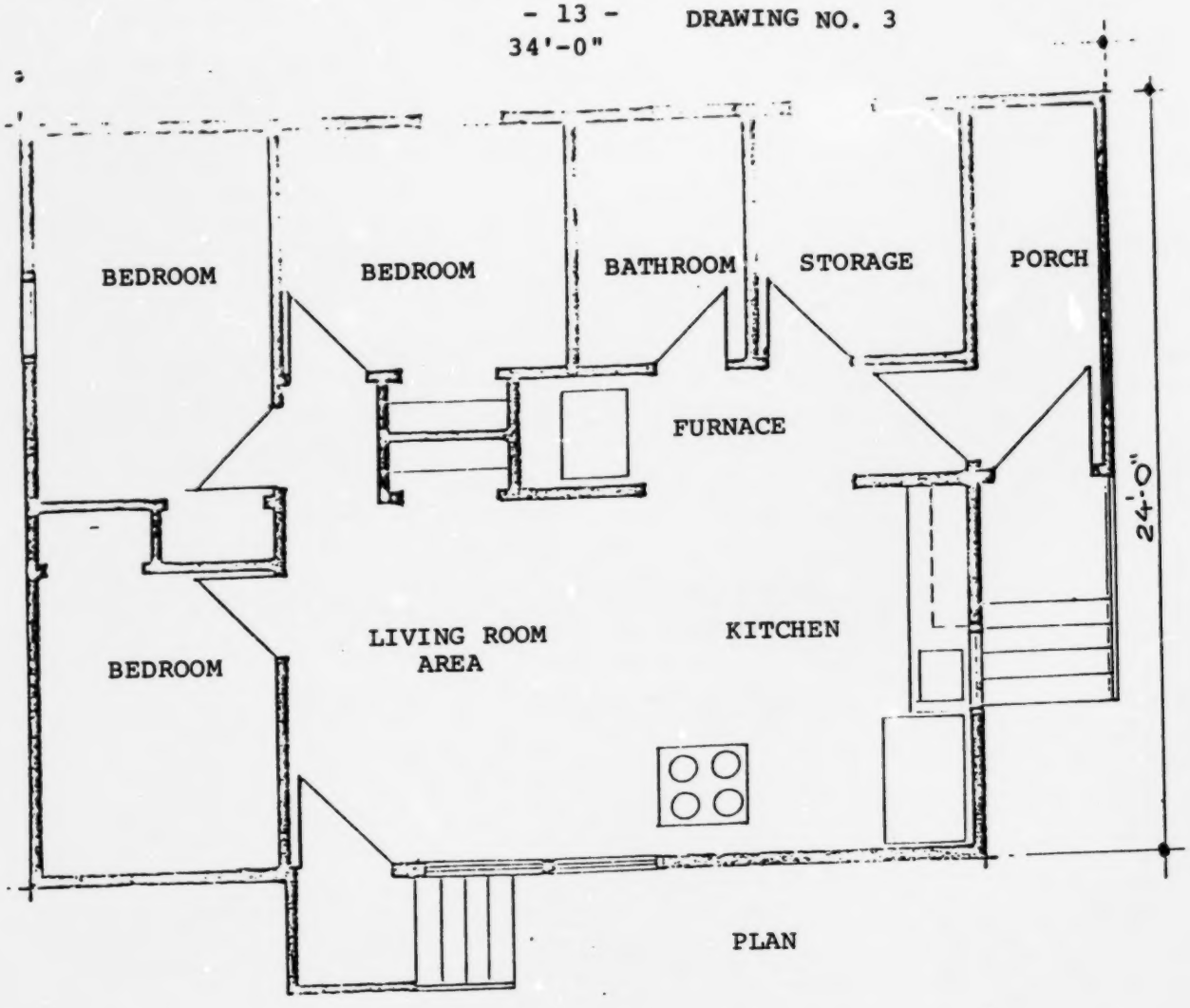
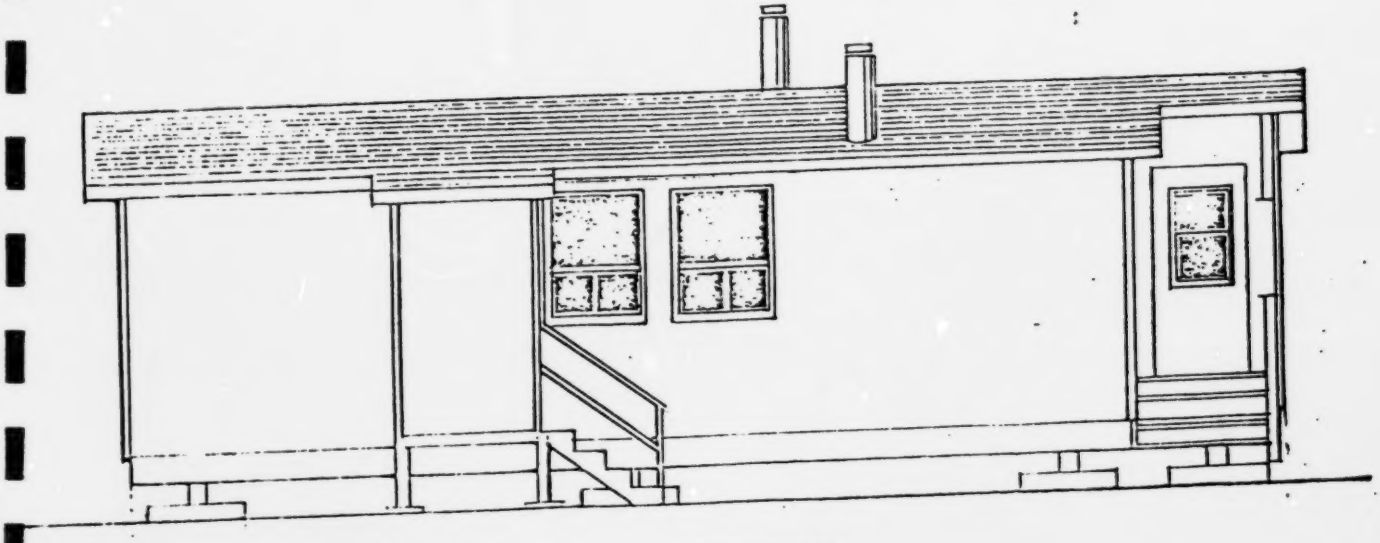
DRAWING NO. 3



PLAN



ELEVATION

MODEL 455 - SURFACE AREA - 720 squares feet
3 BEDROOMS

Those who became owners of their houses under the above program now had the option of selling their house back to the government. Those who planned to become home owners under this new subsidized housing program were granted a 33% reduction in the rents mentioned above, and received a $100 yearly grant which they used to pay off part of their mortgage. However, they were required to pay the costs of servicing their houses (heating, electricity, garbage collection, water, etc.), expenses which most of the people were once again unable to meet.

The parallel educational program, which concerned household maintenance, consisted of three sections: (a) the concepts of house rental and monthly rent payments; (b) normal household maintenance and, consequently, a new lifestyle; (c) local housing committees, which were set up to assume local responsibility for administering the program.

The results of the first part of this educational program were positive. Even though the people continued to be well behind in their rent payments, the concept did seem to be understood by all. The conclusion arrived at with respect to the second

section of the program was that it was impossible to cover all the subjects relating to household maintenance in a short time. Moreover, this part of the program received some criticism from the outside.[4] The numerous changes the government was attempting to bring about in their traditional lifestyle were too drastic. A better approach would have been to introduce new ideas into this lifestyle rather than to attempt to change it. For example, the nutrition courses could have been adapted to the irregular schedule kept by the Native people. Furthermore, these courses should also have been offered to the men, since they traditionally took part in obtaining food (hunting), purchasing supplies (trading posts), cooking, and household maintenance, Moreover, emphasis should have been placed on the necessity of teaching these new concepts to the children. Finally, the creation of the housing committees, the functioning of which was explained in the third part of the program, was not received with the expected enthusiasm. The criticism made by the Inuit was that the only responsibilities given to them were those concerning the local

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4 Thompson, C.T., Patterns of Housekeeping in two Eskimo Settlements, Department of Indian Affairs and Northern Development, 1969, p. 4.

administration of the subsidized housing program: collecting rent, at rates set by the government, allocating dwellings and maintaining them in accordance with strict standards, etc. The basic decisions concerning dwelling design, furniture, construction materials, location, and hiring manpower for construction were made elsewhere and imposed on the Inuit.

It seems that a housing program encouraging the Inuit to develop the notion of property ownership, unlike a subsidized housing program, is based on an imported cultural value impossible to implant in the present northern context.

Indeed, in view of the exorbitant costs of heat, electricity and water, and the very high overall cost of living (due mainly to isolation, distance, the costs of transporting goods and the absence of human and physical organization), it is unrealistic to expect a family earning a modest income to pay 20% to 25% of its income in rent, and even more unrealistic to expect a family to pay this amount in mortgage payments, since these do not include service and maintenance costs. The costs of these services in no way compare to those in

the "South": $1.57 per gallon for heating oil, $0.33 per kilowatthour for electricity, and $0.06 and $0.47 per gallon for water service, depending on the community. In addition, the effects of the climate (longer winter, less sunlight) and the poor quality of the insulation provided in the subsidized houses (three to four inches of mineral wool or fibreglass) increase heating costs even more. The Inuit see no advantage in owning their houses, since the financial assistance they receive, in the form of welfare payments in particular, contains no supplement to offset the high cost of living. The result is that they have less buying power than do welfare recipients living in the South, and that their service costs are much higher. It is therefore unrealistic to set their rent payments at 25% of their gross income. All things considered, these programs, which are intended to encourage property ownership, are more beneficial to the "Whites", both financially and socially (personal pride), than they are to the Native residents. The true purpose of a government housing program should be to serve as a driving force behind the full development of the community, that is, from the social, economic and cultural points of view.

Lastly, mention should be made of the Nunaturlik research project, carried out in 1973-74 by Laval University and subsidized by the federal government. The purpose of this project, in which the Inuit participated continuously, was to determine an ideal type of northern housing unit that meets the needs of those it houses and is adapted to such considerations as the environment, construction materials, methods and costs, etc. Two experimental houses were built at Povungnituk. The project was a success in meeting the social needs of the Inuit, but from the technological point of view the design of the housing units was inadequate.

1.2 Provincial Intervention

Although the Direction générale du Nouveau-Québec was created in 1963, its activities in Nouveau-Québec produced no concrete results until 1967-68, when it built seven housing units for Inuit families in the new village of Tasiujaq (Leaf Bay). This Québec village was created without any federal assistance and in fulfilment of a request made by a group of Native people from the region. Six other houses of the same type, the construction costs of which were assumed by the federal government, were then added to the original six. At the outset the service and maintenance costs were assumed entirely by the

gouvernement du Québec.

Québec action also led to the construction of one housing unit in each of three communities for the permanent Native employees of the gouvernement du Québec responsible for maintaining the DGNQ buildings (schools, offices, housing for government officials). Again, in view of the size of the families, the buildings provided were too small.

1.3 What We Must Retain from Past Experience

A reassessment of the first government housing program for Nouveau-Québec, implemented at Povungnituk in 1958, revealed that in theory the initial intention of the planners was a very good one. They wanted to provide assistance in the area of housing, and avoid the development of any type of Native dependence on the government. But the actual effect of the program was just the opposite. The houses provided were not sufficiently insulated (local materials, etc.), the heating costs were too high in relation to the Inuit incomes, and the new concept of property ownership was meaningless to them.

The short-term objectives of cutting down on expenses and reducing transportation costs, which the programs of the federal Department of Indian and Northern Affairs (1959-65) were designed to achieve, took precedence over the objective of reducing the cost of servicing and maintaining the housing units over the long term. However, the needs of the people were not met because the people were not consulted. The type of house provided in no way corresponded to the needs of those it housed. There was no space provided for cutting up seals, storing meat, or repairing vital equipment for snowmobiles and boat motors. Consequently, the people adapted the dwellings provided by the government to their own needs: seals were cut up and stored in the bathtub, which was not used because there was no water delivery, snowmobiles and boat motors were repaired in the living room and the kitchen table was used as workbench. More sensitivity should have been shown to the particular cultural characteristics of the people, and an environment favourable to their full development should have been provided. To this end, the number of bedrooms could have been reduced in favour of areas intended for the uses mentioned above, since the concept of separate bedrooms is a Euro-American concept foreign to the Inuit.

Finally, the household maintenance educational program also failed to take into account the traditional Inuit lifestyle, and was thus difficult to apply. It would perhaps be useful to recall that traditionally the Inuit women helped the men build the shelter, saw that it was serviced and maintained, and determined how its interior space would be used. The men who were not called upon to participate under this program provided for the family's needs by hunting and by obtaining supplies at the trading posts. The nutrition lessons should have been better adapted to the Inuit lifestyle. For example, they should have suggested new elements to supplement the traditional Native diet, and should have taken irregular meal times into account.

The objective pursued, that of Inuit participation in setting up local housing committees, was a commendable one. These committees were to implement the housing policies and programs introduced by the government. Initially, the tasks assigned to them were too limited and too negative. Only recently did these committees acquire the right to take part in preparing house plans, in allocating houses within the community, in choosing sites for the houses and in carrying out the actual construction. In the future, their powers to establish criteria for allocating houses in the community should be increased,

and for the quality of housing compared with that provided for Whites. The Inuit should also have greater decision-making powers.

The incorporation of the local Inuit councils in 1972 and 1973 was of great importance, as it marked a decisive step in the Inuit's assuming responsibility for activities connected with construction, development, maintenance and municipal services.

At present, the Inuit corporations build and maintain public housing units on a contractual basis, with the help of grants from Indian and Northern Affairs Canada. The Inuit corporations administer budgets of more than $4.5 million, and most make exclusive use of local manpower for the construction of public housing units of the semi-prefabricated type.

To conclude, we might quote a passage from Canadian Nordicity, by Professor Louis-Edmond Hamelin, in which the government housing programs are commented on in the following terms:

> "What has been undertaken was the rehousing of the Inuit in the manner of the Kabloonauit, yet this group of people had neither the materials nor the financial resources to rehouse themselves in this fashion."

Finally, we might add that the pan-Canadian standards applied to housing projects make no allowance for the northern climate and terrain, or for the cultural values of the various Native peoples living in Canada's Northland.

CHAPTER II INVENTORY OF THE NUMBER AND QUALITY OF EXISTING HOUSING UNITS AND CURRENT AND FUTURE NEEDS

2.1 Introduction

More than 5 400 persons are scattered throughout the 13 villages of Nouveau-Québec (see Table 1 and Graph 1). The only one of these communities with a population over one thousand people is Kuujjuaq, the administrative centre of Nouveau-Québec. Despite this low population, the average number of persons in an Inuit household (see Appendix C, Definitions) is double that in the rest of Québec and Canada (see Table 2).

While in 1976 public housing accounted for 2.1% and 1.2% of the housing markets in Canada and Québec respectively in 1979 this type of housing made up 71% of the market in Nouveau-Québec. Furthermore, only 1% of the dwellings are privately-owned, and another 28% belong to commercial and governmental agencies. This phenomenon can be explained largely by the high cost of living due to the extremely high service costs, and by the low incomes of the inhabitants. This major factor, which must be constantly borne in mind, sets the lifestyle in Arctic regions clearly apart from ours.

Since the principal objective in this chapter is to analyze the housing situation in Inuit Nouveau-Québec, we will examine the housing needs of the Inuit, the extent to which these needs have been met, and the actual habitability of the housing units provided for this Arctic environment.

2.2 Analysis of Housing Needs

The first part of this analysis will centre on housing needs from the point of view of quantity. We will establish the relationship between the needs and the degree to which they have been satisfied, so as to enable us to project the real needs that must be fulfilled in the future. The terms "supply" and "demand" will not be used, as these concepts of economics imply the existence of a market within which a quantity of goods change hands (privately-owned dwellings, publicly-owned dwellings, etc.) at continually fluctuating prices.

Since this type of market does not exist in the Nouveau-Québec housing sector, we will use the terms "needs" and "satisfaction of needs".

The notion of need is defined by the number of households currently living in substandard dwellings. Traditionally, housing units classified as substandard were those that

did not comply with conventional habitability standards because of structural defects, the lack of a plumbing system and a corresponding lack of running water, etc. This limited definition of substandard housing was called into question[5] and a new definition was formulated. This is now measured by three criteria: physical inadequacy of the dwelling, crowding, and excessive rent burden.[6] Because of the lack of a housing market, because houses are entirely subsidized by the government, the last criterion, excessive rent burden, cannot be retained for the purposes of this study.

We will therefore use the first two criteria in our analysis of current housing needs in Nouveau-Québec. It

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5 Studies have shown that the information gathered in 1950 and 1960 by U.S. census investigators using this standard for the structural condition of houses proved unusable. It was therefore rejected when the 1970 census was taken. U.S. Census Bureau, "Measuring the Quality of Housing: An Appraisal of Census Statistics and Methods", Working Paper No. 25. Washington D.C., U.S. Government Printing Office, 1967.

6 Birch, D., et al, America's Housing Needs: 1970-1980. Joint Centre for Urban Studies, Cambridge, December 1973, pp. 4-2 to 4-6.

should be noted, however, that certain difficulties arise when an attempt is made to apply these criteria fully in the Arctic environment. The "physical inadequacy" criterion, for instance, which in our urban and rural environments includes the absence of running water (pressurized water and hot water) in houses, cannot be fully retained as a criterion for substandard housing in Nouveau-Québec because of the low population density in the thirteen villages. Because of this low density, which characterizes most of the communities, the disproportionate investment of the sums needed to install and operate municipal running water services cannot be justified at present. It is for this major reason that we regard running water as an indicator of the services offered rather than a criterion for substandard housing.

2.2.1 Physical condition of housing units

(a) Physical classification

The housing units in Inuit Nouveau-Québec can be classified as follows:

783 public housing units (see Table 3)

306 housing units belonging to (government and private) agencies

12 privately-owned dwellings

1101 housing units

From these categories we will retain only those public housing units for which we have basic data.

We can divide them into five categories.[7]

EXCELLENT — Roof, walls, doors, windows all in very sound condition; having furnaces and complete plumbing facilities, including "pumped-out" sewage and waste water tanks.

GOOD — Generally the same as excellent, except require finishing of construction work and repairs, primarily to correct settlement damage due to poor gravel pads.

MEDIOCRE — Major improvements required; these include structural weather-proofing, finishing, plumbing and heating improvements; these units presently have "honeybags", no "pumped-out" tanks, oil cook stove and space heaters; a fire hazard exists.

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7 Safdie, Moshe, and Associates, General Development Plan, Municipality of Frobisher Bay, NWT Interim Report, July 1977.

POOR — Generally mediocre, except improvements required are more extensive. Without the possibility of major rehabilitation, these units would be reclassified as very poor; rehabilitation considered economic.

VERY POOR — Basic shelters, unfit for rehabilitation; uneconomic to rehabilitate.

Table 4 shows clearly and unequivocally the current condition of the housing units in Nouveau-Québec. It shows that only 4.8% of these units are classified as good. These buildings have running water (see Table 6).

The thorough inspection of the houses, which was carried out by SHQ specialists during the months of February and March, 1980, confirmed the urgent need of renovating 623 houses classified as "mediocre". (See Appendices D.1 and D.2, inspection reports on Inuit housing). It should be noted that the absence of basic furnishings on the local market, the prohibitive

transportation costs and the obvious lack of basic furnishings in each housing unit will oblige the SHQ to provide a minimum of furniture, the cost of which will be reflected in the rental rates.

(b) Age

A second indicator of the physical state of the dwellings in Nouveau-Québec is their age. Table 5 shows that 56.3% of the housing units were built during the 1970-1975 period. These units have three to four bedrooms, and their condition is considered to be mediocre. They are in need of major repairs such as improvements to the insulation and the interior and exterior finishing, repairs to the heating and plumbing systems, the installation of running water (pressurized water and hot water), and the installation of toilets (to replace the "honey bags".[8]

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8 The "honey bag" system is the conventional means of collecting human waste. A "honey bag" is a plastic bag which is fitted into a basket that receives human excrement. When it is full, the method used to dispose of it is to carry it through the house to the outside and place it beside other household garbage. The bag is picked up by the person who collects the village garbage. This system has several disadvantages, such as frequent perforation of the bags and freezing of their contents to the ground in the winter, thus making collection difficult. Although this system is the least expensive that can be used in Arctic regions, it has major disadvantages from the sanitary point of view.

The housing units built eleven or more years ago, which make up 20.7% of all the public housing, are for the most part unsanitary. Only some of the dwellings 11 to 15 years old can be saved. They have no heating systems, have only an oil stove to heat the room, have no running water and are mostly of the one-room "matchbox" type measuring 288 square feet in area. Finally, 23% of the dwellings were built in the last five years and require only minor repairs and the installation of running water and sanitary equipment.

(c) Running water

Table 6 shows the number of housing units in each village that have running water service (pressurized water and hot water). The classification shows the houses built for the Inuit under the federal housing program and those built by governmental and commercial agencies to house their employees.

Only 4.9% of the dwellings intended for the Native people have running water, waste water tanks or low-water-use toilets (mechanical seal type), while 99.7% of the housing units

intended for agents and officials have these services.

2.2.2 Overcrowding of housing units

(a) Rate of occupancy

The rate of occupancy of the housing units can be used as a measure of the degree to which the units are overcrowded. Table 7, entitled "Average number of occupants according to type of housing unit", shows that in 1979 the average size of a Native family living in the houses provided under the NRHP[9] was 6.2 persons. Considering that the Canadian average per household decreased from 3.9 persons in 1961 to 3.1 in 1976, and that the Québec average in 1976 was 3.2 (see Table 2), it is clear that the Native housing situation, in which twice as many people live in the same type of housing unit, is in a critical state.[10]

If we compare the average of 6.2 persons per housing unit among the Inuit, to that of 1.95

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9 Northern Rental Housing Program.

10 For more information about the number of persons per Native housing unit, consult Table 16 and Graph 3.

persons per unit among the occupants of government houses desi ned for employees of the ministère des Travaux publics et de l'Approvisionnement (MTPA) (see Table 8), we see that three times as many people live in the Inuit houses. This distinction between Whites and Native people gives rise to serious problems in the villages. We will examine these problems in the next chapter. The total area per person (including non-habitable areas) varies accordingly: 507 square feet for MTPA employees (see Table 8), and 116 square feet for Native people living in three-bedroom houses (see Table 7, and Appendix E.2, Model 455). Actually, the habitable area shown on the plans for houses in this region makes up only 58% of the total area. Therefore, the habitable area for an MTPA employee is 294 square feet, as against 67 square feet for a Native person. It should be noted that the standards used by the CMHC are 225 square feet (habitable and non-habitable areas) for overcrowding and 150 square feet for extreme overcrowding.[11]

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11 Buchanan, E.U., Arctic Housing: Problems and Prospects, M.A. thesis, University of British Columbia, October 1979, p. 55.

NOTE: Several subjects in the thesis mentioned above were referred to in preparing this study.

The regulations made under the Act respecting the Société d'habitation du Québec prescribe, among the requirements they set in respect to housing units and their upkeep, the following minimum habitability standards:

Minimum area standards:

"The total floor area of the habitable rooms in a dwelling (see Appendix C, Definitions) shall not be less than 90 square feet for each person living therein.

The area of the habitable room of a one-room dwelling shall not be less than 70 square feet for one person and 90 square feet for 2 persons.

Occupancy standards:

In addition, in the calculation of overcrowding in a dwelling, the physical occupancy of the dwelling and the distribution of occupants shall be taken into consideration.

The following shall be considered minimum requirements:

(a)	father and mother:	1 bedroom
(b)	children from 0 to 4 years of age:	where there is only one, he may share the parents' room; where there are 2 or more, 1 room shall be provided for each group of 2."

Except in a few cases, the public housing units offered to the Inuit do not comply with these standards.

(b) Overcrowding

The study of the Inuit population of Nouveau-Québec shows that this population is growing rapidly and has a very high birthrate. For example, the natural rate of population growth of the seven settlements in the Ungava region, including Kangiqsujuaq, averaged 28.5 per thousand inhabitants from 1973 to 1978. In comparison, that of the Province of Québec was 8.2 per thousand in 1978.

According to the 1978 statistics available for this region, 62.1% of the Inuit population was in the 0-24 age bracket and 7.89% was in the 50 or over age bracket.[12]

Table 17 shows the demographic projections for the whole of the Inuit territory. The annual rate of growth has been estimated at 28.5 per thousand inhabitants on the basis of the demographic characteristics of the Ungava region, which reflect those of the entire Inuit territory in Québec. Thus, according to the most likely hypothesis, the Inuit population will increase by one-third in ten years. Unless the government makes a determined effort in the area of the construction of public housings, the overcrowding situation in the present houses will become dramatically worse in the years to come.

The degree of overcrowding[13] varies depending

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12 Tremblay, Normand, La Natalité et la mortalité chez les Inuit de la Baie D'Ungava au Nouveau-Québec, 1980, tables 2 and 4.

13 Our calculation is based on the Canadian and American standard of 1.01 persons per habitable room.

on the community. Table 9 shows that Akulivik, the village in which the dwellings are the most overcrowded, has a rate of 84.8%. Kangiqsualujjuaq, on the other hand, has a rate of only 16.2%. In total, over 47% of the Native dwellings in Nouveau-Québec are overcrowded.

(c) Multiple occupancy

A third method of calculating the degree to which a house is overcrowded is to determine the number of houses occupied by more than one family (see definition in Appendix C). Of the 750 Native dwellings built by 1979 under the NRHP program, 103 or 13.7% are occupied by more than one family at the same time. Table 10 shows that 35 of these 103 public housing units with multiple occupancy are located at Povungnituk. This village, with an Inuit population[14] of 741, has 18 dwellings occupied by 10 or more persons (Table 16). The same situation prevails at Inukjuak which, with an Inuit population of 618, has 27 public housing units with multiple occupancy and 10 units housing 10 or more persons.

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14 Includes the non-Inuit members of mixed families.

Table 10 shows that an average of 9.3 persons live in Native dwellings that house two or more families. In total, 103 dwellings house more than one family.

2.3 Public Housing Requirements

Using statistics compiled from housing studies prepared by the Department of Indian and Northern Affairs (DINA) and the Kativik Regional Government (KRG), and the latest updated statistics, we were able to carry out a detailed analysis of housing requirements.

Based on the CMHC overcrowding standard of 1.01 persons per room, we calculated that a four-bedroom house is necessary to meet the minimum needs of the average Inuit family, which has 5.9 members (see Table 11). This requirement will of course vary in each village depending on the number of houses to be renovated. In addition, the number of public housing units with multiple occupancy must be reduced to zero if the average Inuit family is to have a four-bedroom house.

Current needs can be determined until 1981 by totalling the number of units that must be built to accommodate new households, to replace houses destroyed by fire (an

average of five per year), and to replace dwellings which are unsanitary or impossible to repair (Table 12). We thus arrive at a total housing requirement for 1980-81 of 239 units. This number meets the real per person requirement of 161 square feet or 93.3 square feet of habitable area (see Appendix F), determined by applying the SHQ's functional and technical specifications for the northern regions.

It would be more realistic to meet present and future housing requirements over a period of five or ten years so as to take into account the budget availability and the construction capability of the villages concerned. To do so would give us a yearly average of 67 dwellings to be built between now and 1986. Over a ten-year period this number would decrease to an average of 47 new units a year. These calculations appear in Appendix F.

The government has built an average of 35 public housing units a year over the past four years (see Table 13 and Graph 2). As shown above, a similar government effort would fall far short of meeting the projected housing needs of the next five years. However, it would be possible to formulate a plan which would see construction carried out over a ten-year period, under which increases in the investment required would be curbed considerably.

2.4 Habitability of Existing Housing

Existing public housing was studied from a quantitative perspective in the preceding pages; this section of our text will take a qualitative approach.

The degree of habitability of housing can be evaluated on the basis of its physical performance, the way it affects users, and its appropriateness to the northern environment.

Housing's role in encouraging community spirit in the villages should also be analyzed, as well as the extent to which it is appropriate to the lifestyles and corresponding cultural values of its inhabitants. Public housing must meet the needs of the families and communities it is designed to serve. Otherwise, it will be neglected and used incorrectly, and, whatever the technical standards used in its construction, it will deteriorate rapidly.

2.4.1 Physical performance of housing units and encouragement of a community spirit in the villages

Whereas urban tenants have an almost unlimited choice of rental housing, Inuit inhabitants of Nouveau-Québec depend entirely on government programs to

meet their housing needs, which means that there is no housing market, and consequently no choice available.

Of the 1 101 housing units in Nouveau-Québec, only 12 are privately owned (See Appendix E.3: List of Homeowners). The figures given in Table 8 clearly point up the difference between the degree of habitability of Native housing and housing for government officials (507 square feet for the latter and 116 square feet for the Inuit, Model 455, 3 bedrooms). Obviously, existing Inuit housing is overcrowded, and this brings about an increase in wear and tear, in the deterioration of the housing, and in the occupants' level of dissatisfaction. This indicator alone demonstrates the low level of habitability of Inuit housing.

Earlier in the text we examined the state of existing public housing by category, as shown in Table 4. The need for repairs can be attributed to three major factors:

(a) because gravel beds are not maintained after housing is built, the use of prefabricated

building panels gives rise to major seepage problems as joints crack;

(b) heating systems and sanitary facilities are not particularly well adapted to ambient conditions: vapour barriers and insulation are often defective because of poor design or installation, and even more often because of a lack of strict inspection while housing is under construction;

(c) maintenance of housing is clearly insufficient, giving rise to inevitable problems.

The quality of services provided for housing units constitutes another indicator of the level of habitability. Only 38 public housing units out of 745 have running water, compared with 304 units out of 305 occupied by personnel from government and private agencies (see Table 6).

The lack of real differences in rental rates between housing units of similar dimensions constitutes a further source of frustration which inhibits the development of a community spirit in the villages. Furthermore, the Inuit believe that the same

government provides differing services depending on one's ethnic group (see Tables 14 and 15).

Finally, maintenance of housing under the northern housing program varies both as regards the quality of maintenance technicians used, and the funding provided.

2.4.2 Physical performance of housing units and its effects on user lifestyles

Housing designed for northern regions must be appropriate to the characteristics of the natural environment and be built to harmonize and integrate with this environment, to allow for terrain and climate, and to correspond to user lifestyles.

Situation

Buildings should be designed so as to make maximum use of solar heat, to minimize the build-up of snow, and to counter the psychological effects of isolation, disorientation, and lack of stimuli.[15]

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15 To document this section of the text, we made abundant use of the functional and technical specifications for northern regions as defined by the groupe Recherches et Normes of the Société d'habitation du Québec.

Most housing has been built with no consideration given to the prevailing winds, and the consequent enormous build-up of snow, both around and on houses, often prevents occupants from using exits provided, and creates problems in the delivery of daily municipal services (see Photo 2).

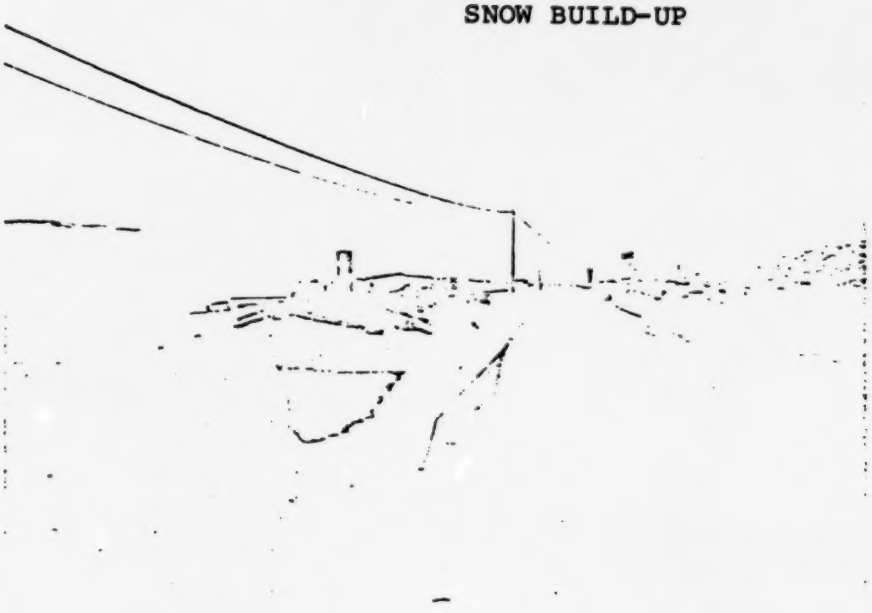
Foundations

Permafrost, or permanently frozen soil, is a major problem in northern regions. The basic and most fundamental rule for construction on this type of soil base is that it must be perfectly insulated from any source of heat. This insulation is achieved through the use of insulated timber or steel pilings, or foundation beds of river gravel or crushed stone containing no sand, mud, clay or organic matter which might retain water. Beds must be at least one metre in height and be prepared a year in advance to allow materials to settle. Because of the erosion to which these gravel beds are subject, they require annual repair (see Photo 3).

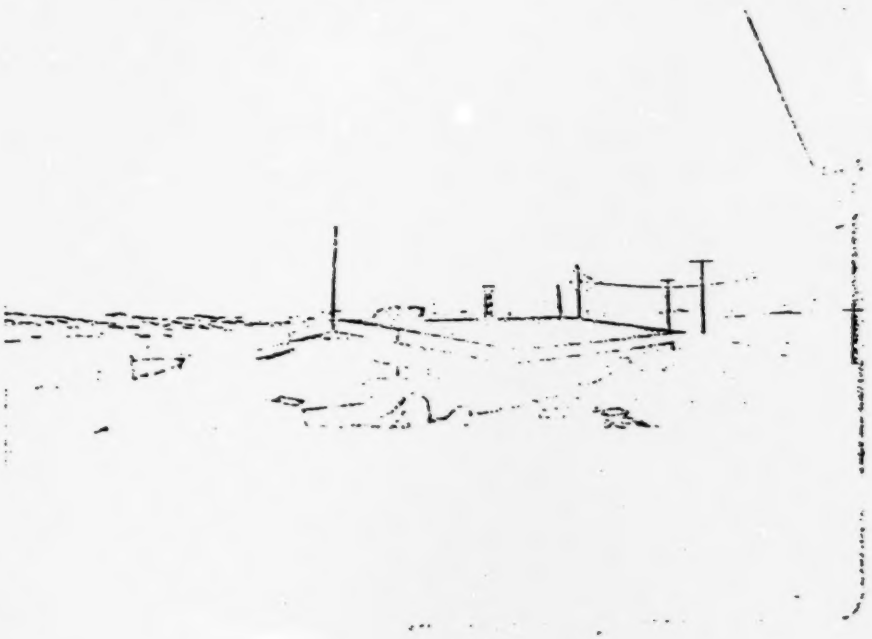
In this case the beds are composed of granular materials of uniform size containing mud and organic matter. Eroded by wind and water, the

PHOTO 2

SNOW BUILD-UP



Akulivik, May 3, 1980

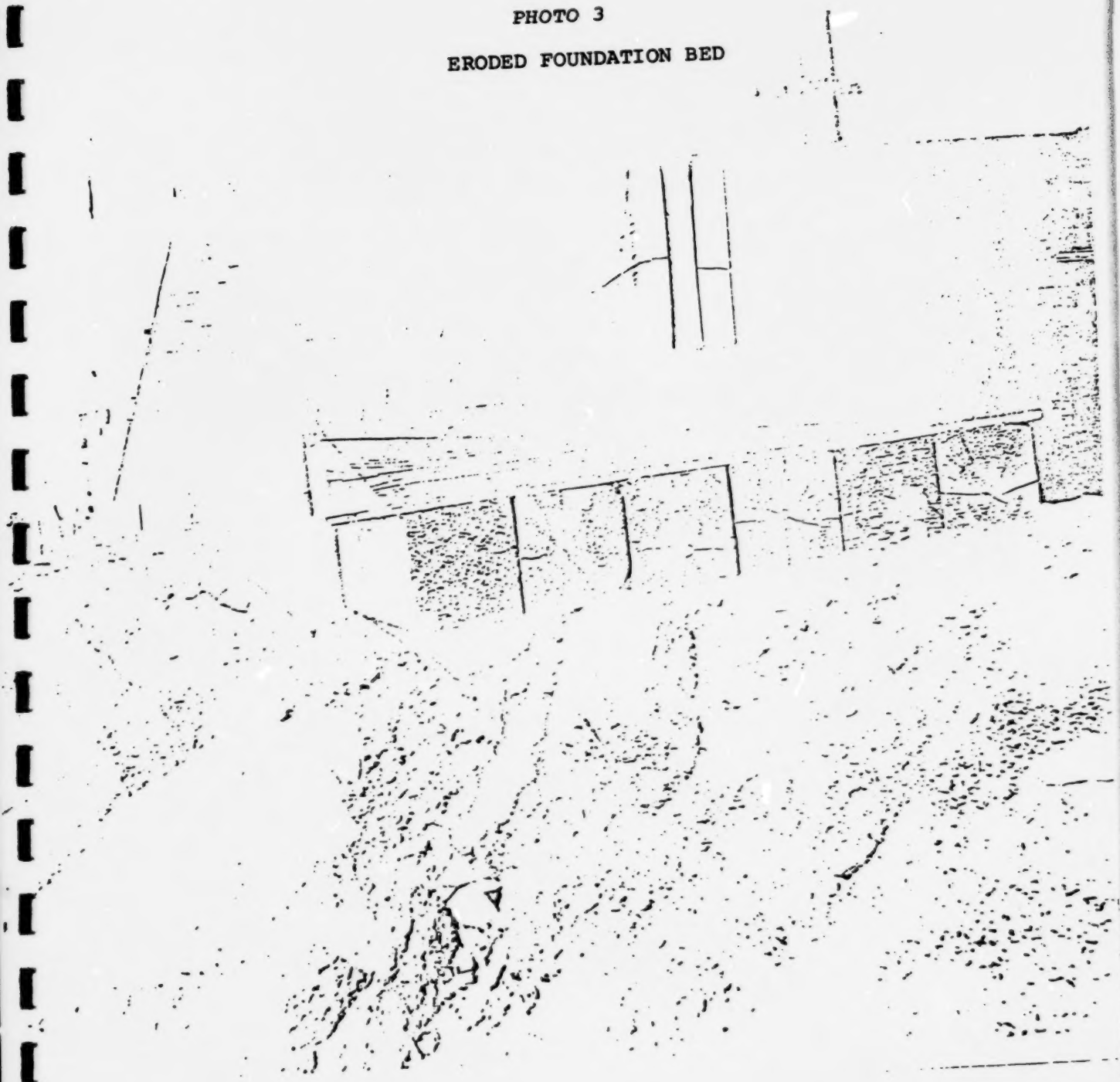


Akulivik, May 3, 1980

SOURCE: Bernard Sicotte

PHOTO 3

ERODED FOUNDATION BED



SOURCE: Nunaturlik Project, Université Laval.

beds deteriorate if they are not maintained, causing the displacement of building joints and letting in snow, sand, water, wind and the cold. Such conditions considerably limit the level of habitability of housing units.

Construction

(a) Insulation

NRHP buildings are built of plywood panels, glued under pressure onto 38 x 89 mm joists. Mineral wool with a RSI factor of 2.1 for walls, and 2.46 for floors is placed between the joists. SHQ standards for northern regions recommend a thermal resistance factor of 7.0 RSI for floors and ceilings, and 5.2 RSI for walls.[16]

(b) Vapour barriers

Vapour barriers must be put up in compliance with manufacturers' specific instructions. In many cases, however, they are pierced during installation, or poorly sealed, or positioned with no overlap, with considerable resultant heat loss and risk of condensation. In

16 The RSI factor indicates the insulation's resistance to heat loss. The higher the RSI factor, the more difficult it is for heat to escape through the insulation.

addition, inefficient vapour barriers lower the humidity level and render home interiors uncomfortably dry for occupants. Efficient vapour barriers, on the other hand, require a good natural or mechanical source of ventilation.

(c) Attics

Snow which gets into attics through conventional ventilators poses a serious condensation problem in the spring. During the spring thaw, the melting snow which has accumulated damages insulation and seeps through ceilings. Unless a better solution is found to ventilate attics and prevent snow from getting in, the simplest solution would be the construction of cathedral ceilings.

(d) Windows

In houses built at the beginning of the seventies, windows have only a single pane. The majority were poorly installed, and have never since been adjusted, so cold air can easily seep in. The frosting on the windows which results damages window frames, limits

occupants' ability to see outside, and increases their feelings of claustrophobia. The glass used does not stand up to vandalism. The system for opening windows is not adapted to the extreme temperature differences found in the North; windows warp and often stick. A really functional system would involve fixed windows with multiple sealed panes, protected against breakage from the outside by acrylic sheets. An independent, insulated ventilation system would be required in addition.

(e) Outside doors

Doors used at the present time are all made of wood, and in most cases, they are single doors. Because they are subject to extreme temperature differences on each side (approximately 65° C), they tend to warp, to unstick, and to freeze. In many cases they are blocked by snow build-up, and, furthermore, they afford no protection to occupants since they let cold air and wind in. An appropriate solution would be the use of steel outer doors, insulated with magnetic cold barriers.

(f) Interior finish

In general terms, all interior finishing should require minimal upkeep, be easily replaceable, and, where possible, be resistant to freezing. Because of the occupants' particular cultural practices, including the cutting up of meat on the floor, vinyl-asbestos tiles would seem to be the most appropriate answer to these specific needs.

(g) Mechanical parts

Because of factors such as distance, the lack of parts, a lack of specialized man-power, the diversity of equipment, and risks of electrical power failure, mechanical systems should be energy-efficient and as simple as possible for ease of upkeep.

(h) Spaces and cultural particularities

Building designs should include the following spaces:

- An outside porch which is separate from the main structure of the house, properly positioned in relation to the prevailing

winds so as to avoid the build-up of snow. This porch would function as a protected entrance between the heat and the cold.

- The kitchen should be designed to accommodate several people at meal-times, and the larder should be large enough to store large quantities of foodstuffs (bags of flour, etc.)

- Bedrooms should be large enough to hold two beds. One solution to optimize use of bedroom space would be to use a system of drawers under the beds.

- Outside storage facilities for storage and repair of snowmobile and boat motors, and for the large-scale storage and cutting up of animal carcasses.

  These outside facilities should also be used for storing flammables.

It is abundantly clear that many problems are caused by poor design of housing and the lack

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of inspection during construction. In addition, the present budgetary constraints do little to encourage applied research and the introduction of innovative and appropriate solutions.

Simplicity, flexibility in the design and its components and a thorough knowledge of the Arctic environment are the essential requirements for the elaboration of an integrated northern housing system.

CHAPTER III PUBLIC HOUSING CONSTRUCTION METHODS

The aim of this chapter is to provide a detailed technical inventory of construction methods used in public housing. We will use a comparative table to show the advantages and disadvantages of each construction method, while taking into account government administrative procedures, problems of transport, and local requirements. The three methods of construction we consider are prefabricated panels, prefabricated units, and conventional housing construction.

The major evaluation criteria used for this table are as follows:

- maximum use of local manpower for construction;
- involvement of the local people in the housing delivery process, including the planning and management of housing;
- rapid achievement of a closed space, because of the short building season;
- low cost of construction.

All the construction methods analyzed are evaluated on the basis of the same technical specifications.

3.1 PREFABRICATION OF PANELS

ADVANTAGES

MAJOR

- Enables a housing prototype to be built beforehand, and altered before mass production takes place.
- Competitive prices because of the number of manufacturers.
- Centralization of purchasing.
- Contract is more easily administered; follow-up is easier because the number of activities is more limited.
- Centralization of quality and quantity checks and overall inspection.
- A mechanical unit can be built in the South, to compensate for the absence of specialized manpower in the North.

DISADVANTAGES

MAJOR

- Requires more complex plans and specifications.
- Requires a fairly large number of units before prices can become competitive.
- Joints are a problem which will necessitate in-depth design changes.

ADVANTAGES	DISADVANTAGES
MAJOR	MAJOR
- Reduced packing costs, as packing is included in manufacturing costs.	
- Savings in storage costs; requires no storage in the South or in the North.	
- Cheaper transportation costs because of fewer components.	
- Inuit workers are experienced in this method of construction.	
- Responsibility for the building of housing units can be delegated locally.	
- Represents a savings in travelling expenses and bonuses paid to specialized workers in the North.	

PREFABRICATION OF PANELS

ADVANTAGES

MINOR

- Negotiations with the CMHC are easier because costs have already been determined.
- Lower percentage of materials wasted than with conventional housing.
- Ease of handling during unloading (requires no heavy machinery during transport or unloading).
- Limits losses due to vandalism.
- Reduced supervision on the site during construction.
- No heavy machinery required during construction.
- Flexibility of the shell and structure; system is easy to dismantle and move.

DISADVANTAGES

MINOR

3.2 PREFABRICATION OF UNITS

ADVANTAGES

MAJOR

- No quantity calculations.
- Prototype can be manufactured and altered before production.
- Competitive prices because of the number of manufacturers.
- Centralization of purchasing.
- Contract is more easily administered; follow-up is easier because the number of activities is more limited.
- Centralization of quality and quantity checks, and overall inspection.
- Reduced packing costs.

DISADVANTAGES

MAJOR

- High cost of maritime transport.
- Risk of the structure being broken, or units warping during transportation and transshipment.
- Risk of the loss of an entire unit during transportation and difficulty of producing an additional unit.
- Leak-proof joints present major problems.
- Repair to the unit requires specialized workers.

ADVANTAGES	DISADVANTAGES
MAJOR	MAJOR
- Savings in storage costs; requires no storage in the South or in the North.	
- Requires only a limited number of specialized workers during installation.	
- As the contractor is the only person responsible for installation, schedules are more easily respected.	

PREFABRICATION OF UNITS

ADVANTAGES

MINOR

- Negotiations with the CMHC are easier because costs have already been determined.
- No wastage of materials needs to be allowed for.
- Equipment can be stored in the units.
- Less risk of breakage to finishing materials stored inside the units.
- No unpacking required and no waste materials to dispose of.

DISADVANTAGES

MINOR

- Requires special straps on the boats and on the units.
- Requires heavy machinery for unloading and installation.
- Requires the construction of access roads to the site.
- Lack of flexibility in interior design.

3.3 CONVENTIONAL HOUSING CONSTRUCTION

ADVANTAGES

MAJOR

- Flexibility in architectural design.
- Possibility of a jointless shell.
- Easy to repair (requires no specialized workers).

DISADVANTAGES

MAJOR

- Quantity calculations add to the administrative process.
- As no prototype is built in advance, some on-site alterations have to be made.
- Purchasing process is slow and requires lengthy and costly administrative follow-up.
- Limited possibilities for negotiation because of the numerous sources of supply and restricted quantities.
- Discounts negotiated between contracters and suppliers are not available.
- Requires many individuals for the numerous quality and quantity controls of the large number of components after production and upon reception.

ADVANTAGES

MAJOR

DISADVANTAGES

MAJOR

- Supplier is not legally responsible for expenses resulting from his not respecting his contract.

- Some suppliers of major components do not respect contract schedules; consequent delays in projects often jeopardize their successful completion.

- Increased risk of non-respect of completion dates because of the number of people involved in purchasing, recruiting of workers, and transportation.

- High number of packages of supplies, with consequent danger of loss during packaging, wharf storage and unloading (risk of theft).

- Requires storage on the construction site.

- Requires a permanent site supervisor.

- High cost of specialized workers.

CONVENTIONAL HOUSING CONSTRUCTION

ADVANTAGES

MINOR

- Flexible enough to allow on-site changes to structures and interiors.
- Ease of handling during unloading and transport to the site (does not require heavy machinery).

DISADVANTAGES

MINOR

- Calculation of a margin of component loss which increases the cost of construction.
- Contractors are obliged to visit the site before submitting tenders.
- Materials are subject to the elements during storage and on construction sites.
- Suppliers non-respect of contracts obliges the person responsible for the project to be present at the time of packing and re-assign merchandise to its different consignees.
- Risk of losses due to vandalism on the construction site.
- Non-specialized workers have difficulty in reading the plans.

This detailed analysis of the different construction methods leads us to favour the method using prefabricated panels. It makes maximum use of local manpower, thereby involving the local people in the responsibility for the administration of the project; a closed space can be achieved rapidly, and this is essential, given the short building season; only a limited number of specialized workers are required, and, in addition, this method requires no heavy machinery which might jeopardize the limited construction period, during the construction of housing on the site.

As regards costs, a 1979 study by Pluram shows that the construction of housing using prefabricated panels represents a savings of 3.3% in relation to conventional housing and of 3.8% in relation to housing built of prefabricated units. The 1979 experiment (in Kuujjuaq) by the Department of Indian and Northern Affairs also confirms these savings: the same housing unit built using conventional construction methods cost twice as much for manpower as did the one built out of panels.

In conclusion, we believe that this method of construction, in addition to its numerous major advantages, should be studied on the basis of its potential for stimulating a local economy based on the emergence of small local contractors, and also

as regards the economic impact in the South of the construction of 474 housing units over a period of ten years.

CHAPTER IV ELEMENTS FOR A HOUSING POLICY FOR THE NORTHERN REGIONS

We conclude this survey of housing in Inuit Nouveau-Québec with a list of the elements required to draw up a housing policy for the North. This policy will establish guidelines for SHQ action in the North, and will provide a clear framework, defined in terms of the ultimate objectives of the housing program, for coordinating the various activities of the Société d'habitation du Québec. The recommendations which follow are intended to achieve the objectives mentioned above; the policy as such will be defined at a later stage by the joint committee formed of representatives of SAGMAI, the Kativik Regional government, and the SHQ.

4.1 Recommendations

1. That public housing be provided which meets the basic requirement for shelter which is healthy, safe, and not over-crowded; that respect for these requirements be based on the functional and technical specifications defined by the SHQ for northern regions (see Appendix G).

2. That a means be developed to achieve real delegation of responsibilities at the local level, as regards important decisions on the delivery of housing, including

planning, construction, and the financial and administrative management of local public housing; that an intensive training program on the supervision of construction work be set up so as to make the delegation of responsibilities a reality.

3. That the specific lifestyle of the Inuit be taken into consideration in the planning and design of public housing.

4. That the same services be provided in Inuit public housing and to resident government officials. This also applies to the dimensions of housing available and to rental rates.

5. That incentives be offered to encourage energy conservation, both at the time new housing is built, and in the operation of existing housing.

6. That the renovation of public housing be included in the policy; that this be carried out on the basis of the standards of habitability defined by the SHQ for northern regions (see Appendix G).

7. That the requirements of the program correspond to users' capacity to pay.

8. That the program be universal, since northern municipalities, which are non-ethnic, are responsible for the allocation of housing.

9. That precise and realistic objectives be drawn up for the implementation of the program, that all requirements for their achievement be listed strategically, and that sources of financing and the agencies which will make policy decisions for the program be clearly identified.

10. That a diversified housing "market" be developed; that private enterprise be encouraged to offer housing in competition with government-funded housing. This is vital as it would reduce government investment as well as service and maintenance costs, and at the same time give the clientèle the choice of a variety of housing to meet their differing financial means. This market would lessen the dependency of the Inuit on the government. Its creation would require the leveling-off of the cost of services provided in public and private housing, so that it is comparable with services in the South. This means subsidizing excess costs and maritime transport costs so that any

contractor would be able to undertake projects in this area.

This last recommendation goes beyond the limits of SHQ jurisdiction and would require concerted action on the part of the various government agencies involved.

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APPENDIX A

TABLES

1. POPULATION OF INUIT NOUVEAU-QUÉBEC (79-01-01)
2. AVERAGE NUMBER OF PERSONS PER HOUSEHOLD
3. INVENTORY OF PUBLIC HOUSING AS OF 80-06-01
4. CONDITION OF EXISTING PUBLIC HOUSING BY CATEGORY (80-06-01)
5. NUMBER OF PUBLIC HOUSING UNITS ACCORDING TO BUILDING AGE (80-06-01)
6. HOUSING UNITS WITH AND WITHOUT RUNNING WATER (80-06-01)
7. AVERAGE NUMBER OF OCCUPANTS ACCORDING TO TYPE OF HOUSING UNIT (79-01-01)
8. AVERAGE NUMBER OF OCCUPANTS OF MTPA HOUSING
9. OVERCROWDING (79-01-01)
10. PUBLIC HOUSING WITH MULTIPLE OCCUPANCY (79-01-01)
11. AVERAGE NUMBER OF OCCUPANTS ACCORDING TO TYPE OF PUBLIC HOUSING OCCUPIED BY A SINGLE FAMILY (79-01-01)
12. FORECAST OF TOTAL HOUSING NEEDS FOR 1981.
13. PUBLIC HOUSING BUILT SINCE 1977 AND 1980 CONSTRUCTION FORECAST
14. NRHP MONTHLY RENTAL RATES
15. MONTHLY RENTAL RATES BY AGENCY IN 1980-1981
16. NUMBER OF PUBLIC HOUSING UNITS PER VILLAGE ACCORDING TO THE NUMBER OF OCCUPANTS (79-01-01)
17. POPULATION PROJECTIONS 1980-1990

TABLE 1

POPULATION OF INUIT NOUVEAU-QUÉBEC (79-01-01)

VILLAGE	INUIT	NON-INUIT AND MEMBERS OF MIXED FAMILIES	OTHER	TOTAL
KANGIQSUALUJJUAQ	323	2	10	335
KUUJJUAQ	794	24	250	1 068
TASIUJAQ	100	--	3	103
AUPALUK	65	--	1	66
KANGIQSUK	259	1	11	271
QUARTAQ	150	3	4	157
KANGIQSUJUAQ	275	2	12	289
SALLUIT	532	5	15	552
IVUJIVIK	176	--	8	184
AKULIVIK	199	--	4	203
POVUNGNITUK	736	5	46	787
INUKJUAK	618	--	44	662
KUUJJUARAAPIK	590	14	158	762
TOTAL	4 817	56	566	5 439

SOURCE: Ungava Social Services, Ungava Hospital, Kuujjuaq, January 1979.

TABLE 2

AVERAGE NUMBER OF PERSONS PER HOUSEHOLD

	1971	1976	1979
CANADA	3.5 persons	3.1[1]	N.A.[2]
QUÉBEC	3.7 persons	3.2[1]	N.A.[2]
NORTHWEST TERRITORIES	4.4 persons	4.1[1]	N.A.[2]
INUIT NOUVEAU-QUÉBEC	N.A.[2]	N.A.[2]	6.2[3]

1 SOURCE: Statistics Canada

2 Not presently available

3 See Table 7: Average Number of Occupants according to Type of Housing Unit

TABLE 3

INVENTORY OF PUBLIC HOUSING AS OF 80-06-01

VILLAGE	1 room	2 B.RM	3 B.RM	4 B.RM	5 B.RM	TOTAL
KANGIQSUALUJJUAQ	2	1	39	6	--	48
KUUJJUAQ	7	3	107	5	1	123 [1]
TASIUJAQ	--	--	13	1	1	15
AUPALUK	10	--	--	2	--	12
KANGIQSUK	--	1	40	--	1	42
QUARTAQ	3	--	22	--	2	27
KANGIQSUJUAQ	--	1	33	5	1	40
SALLUIT	13	3	57	7	--	80
IVUJIVIK	7	1	20	2	--	30
AKULIVIK	27	--	13	--	--	40
POVUNGNITUK	11	3	102	7	--	123
INUKJUAK	14	--	75	14	--	103
KUUJJUARAAPIK	11	3	82	2	2	100 [2]
TOTAL	105	16	602	51	8	783

1 This inventory includes two 4-bedroom units and two 3-bedroom units which had not been built as of 80-06-01 but for which building materials had already been delivered, and nine private housing units benefiting from the NHRP.

2 This total does not include the 61 Indian homes.

TABLE 4

CONDITION OF EXISTING PUBLIC HOUSING BY CATEGORY (80-06-01)

Categories

VILLAGE	EXCELLENT	GOOD	MEDIOCRE	POOR	VERY POOR	TOTAL
KANGIQSUALUJJUAQ	--	--	45	1	2	48
KUUJJUAQ	--	31	82	3	7	123
TASIUJAQ	--	--	14	1	--	15
AUPALUK	--	--	2	--	10	12
KANGIQSUK	--	--	41	1	--	42
QUARTAQ	--	--	24	--	3	27
KANGIOSUJUAQ	--	5	34	1	--	40
SALLUIT	--	--	64	3	13	80
IVUJIVIK	--	--	22	1	7	30
AKULIVIK	--	--	13	--	27	40
POVUNGNITUK	--	2	107	3	11	123
INUKJUAK	--	--	89	--	14	103
KUUJJUARAAPIK	--	--	86	3	11	100
TOTAL	--	38	623	17	105 [1]	783
PERCENTAGE %	0	4.8	79.6	2.2	13.4	100%

1 These are one-room dwellings in all cases.

TABLE 5

NUMBER OF PUBLIC HOUSING UNITS ACCORDING TO BUILDING AGE (80-08-01)

VILLAGE	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	TOTAL NO. UNIT
KANGIQSUALUJJUAQ	--	--	--	--	--	--	--	--	--	--	--	6	16	10	--	8	4	--	--	1		
KUUJJUAQ	--	--	--	--	--	--	--	8	4	--	5	6	55	5	10	5	3	6	5			
TASIUJAQ	--	--	--	--	--	--	--	--	--	--	13	--	--	--	--	--	--	1	--	--		
AUPALUK	--	--	--	--	--	--	--	--	--	--	10	--	--	--	--	--	--	--	--			
KANGIQSUK	--	--	--	--	--	--	--	--	--	--	--	4	16	10	--	6	6	--	--			
QUARTAQ	--	--	--	--	--	--	--	--	--	--	--	5	--	8	13	--	--	--	--			
KANGIQSUJUAQ	--	--	--	--	--	--	--	--	--	1	--	6	10	10	8	--	--	--	2			
SALLUIT	--	--	--	--	--	--	--	--	--	--	14	4	10	10	10	--	10	4	7			
IVUJIVIK	--	--	--	--	--	--	--	--	--	--	6	--	5	5	5	2	2	--	1			
AKULIVIK	--	27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
POVUNGNITUK	2	6	--	--	5	3	1	4	3	--	--	5	19	20	10	7	17	4				
INUKJUAK	1	1	2	3	1	8	--	--	1	2	6	4	14	15	6	--	3	10				
KUUJJUARAAPIK	--	3	--	4	4	7	1	--	1	5	--	4	8	37	22	7	2	--				
TOTAL	3	37	2	7	10	18	2	12	9	8	54	44	153	125	84	35	47	24				

1 - 5 years	180	23 %
6 - 10 years	441	56.3%
11 - 15 years	85	10.8%
16 - 20 years	74	9.5%
21 and over	3	0.4%
TOTAL:	783	100 %

TABLE 6

HOUSING UNITS WITH AND WITHOUT RUNNING WATER (80-06-01)

VILLAGE	NRHP[1]		AGENCIES	
	With Running Water	Without Water	With Running Water	Without Water
KANGIQSUALUJJUAQ	48	--	--	9
KUUJJUAQ	93	31	1	117
TASIUJAQ	14	--	--	5
AUPALUK	12	--	N.A.	N.A.
KANGIQSUK	42	--	--	11
QUARTAQ	27	--	--	7
KANGIQSUJUAQ	35	5[2]	--	12
SALLUIT	80	--	--	14
IVUJIVIK	30	--	--	6
AKULIVIK	40	--	--	N.A.
POVUNGNITUK	121	2[2]	--	28
INUKJUAK	103	--	--	25
KUUJJUARAAPIK	100	--	--	71
TOTAL	745	38	1	305

1 Units constructed under the federal Northern Rental Housing Program.

2 The 5 units in Kangiqsujuaq and the 2 in Povungnituk have no holding system for their waste waters.

TABLE 7

AVERAGE NUMBER OF OCCUPANTS ACCORDING TO TYPE OF HOUSING UNIT (79-01-01)

Type of Housing

VILLAGE	1 ROOM	2 B.RM	3 B.RM	4 B.RM	5 B.RM
KANGIQSUALUJJUAQ	--	6	6.5	9	--
KUUJJUAQ	2.4	--	6.2	9.5	8
TASIUJAQ	--	--	7.1	--	--
AUPALUK	6.4	--	--	--	--
KANGIQSUK	--	7	5.6	--	9
QUARTAQ	2.5	--	5.9	--	9
KANGIQSUJUAQ	--	6	6.3	10.7	12
SALLUIT	2.7	4.6	7.6	14	--
IVUJIVIK	4.6	9	6.8	--	--
AKULIVIK	5.7	--	9.2	--	--
POVUNGNITUK	2.9	7.5	6.2	10.7	--
INUKJUAK	3.3	--	6.5	8.6	--
KUUJJUARAAPIK	1.2	2.6	5.9	6.6	6.5
AVERAGE	3.5	6.1	6.6	9.8	8.9
OVERALL AVERAGE		6.2			

N.B. Of the 4 873 Inuit and non-Inuit members of mixed families shown in Table 1, 153 do not live in public housing. In addition, Inuit live in 3 private homes as well as the 750 public housing units shown in Table 10. The figure of 6.2 for the overall average number of occupants allows for these adjustments.

TABLE 8

AVERAGE NUMBER OF OCCUPANTS OF MTPA HOUSING

VILLAGE	NUMBER OF UNITS	SQ. FEET	NUMBER OF OCCUPANTS	AVERAGE OCCUPATION	
				PERSONS	SQ. FT/ PERSON
KANGIQSUALUJJUAQ	2	2 632	3	1.5	877
KUUJJUAQ	24	20 856	43	1.8	485
TASIUJAQ	2	2 344	3	1.5	781
AUPALUK	--	--	--	--	--
KANGIQSUK	2	2 912	3	1.5	971
QUARTAQ	2	3 192	6	3	532
KANGIQSUJUAQ	2	2 604	5	2.5	521
SALLUIT	1	1 170	4	4	293
IVUJIVIK	--	--	--	--	--
AKULIVIK	--	--	--	--	--
POVUNGNITUK	6	7 276	12	2	520
INUKJUAK	2	2 144	9	4.5	238
KUUJJUARAAPIK	19	16 246	33	1.7	492
TOTAL	62	61 376	121	1.9	507

N.B. Figures date from September 12, 1979 for the Hudson Bay subregion, and from March 31, 1980 for the Ungava subregion.

SOURCE: MTPA, northern region, checklist of current leases.

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McMASTER UNIVERSITY
HAMILTON, ONTARIO

TABLE 9

OVERCROWDING (79-01-01)

VILLAGE	TOTAL PUBLIC HOUSING UNITS	NUMBER OF OVERCROWDED UNITS	% OF OVERCROWDED UNITS
KANGIQSUALUJJUAQ	43	7	16.2
KUUJJUAQ	118	48	40.6
TASIUJAQ	13	8	61.5
AUPALUK	12	10	83
KANGIQSUK	42	15	35.7
QUARTAQ	26	11	42.3
KANGIOSUJUAQ	39	16	41.02
SALLUIT	73	49	67.1
IVUJIVIK	26	17	65.3
AKULIVIK	33	28	84.8
POVUNGNITUK	122	56	45.9
INUKJUAK	103	53	51.4
KUUJJUARAAPIK	100	37	37
GRAND TOTAL	750	355	47.3

TABLE 10

PUBLIC HOUSING UNITS WITH MULTIPLE OCCUPANCY (79-01-01)

VILLAGE	TOTAL PUBLIC HOUSING UNITS	MULTIPLE OCCUPANCY		AVERAGE NUMBER OF PERSONS
		NUMBER OF UNITS	PERCENTAGE %	
KANGIQSUALUJJUAQ	43	4	9.3	N.A.
KUUJJUAQ	118	7	5.9	8.6
TASIUJAQ	13	2	15.4	9
AUPALUK	12	--	--	--
KANGIQSUK	42	--	--	--
QUARTAQ	26	3	11.5	9
KANGIQSUJUAQ	39	1	2.6	15
SALLUIT	73	2	2.7	9.5
IVUJIVIK	26	--	--	--
AKULIVIK	33	10	30.3	8.7
POVUNGNITUK	122	35	28.9	8.1
INUKJUAK	103	27	26.2	8.2
KUUJJUARAAPIK	100	12	12	8
GRAND TOTAL	750	103	13.7	9.3

TABLE 11

AVERAGE NUMBER OF OCCUPANTS ACCORDING TO TYPE OF PUBLIC HOUSING OCCUPIED BY A SINGLE FAMILY (79-01-01)

Type of Housing

VILLAGE	1 ROOM	2 B.RM	3 B.RM	4 B.RM	5 B.RM
KANGIQSUALUJJUAQ	--	6	6.5	9	--
KUUJJUAQ	2.4	--	6	9.5	8
TASIUJAQ	--	--	6.8	--	--
AUPALUK	6.4	--	--	--	--
KANGIQSUK	--	7	5.6	--	9
QUARTAQ	2.5	--	5.6	--	9
KANGIQSUJUAQ	--	6	6	10.3	12
SALLUIT	2.7	4.6	7.6	14	--
IVUJIVIK	4.6	9	6.8	--	--
AKULIVIK	5.3	--	4	--	--
POVUNGNITUK	2.9	5.5	5.6	8.5	--
INUKJUAK	2.7	--	6	7.8	--
KUUJJUARAAPIK	1.2	2.6	5.5	6.4	6.5
AVERAGE	3.6	5.1	6.1	8.9	8.8
WEIGHTED OVERALL AVERAGE			5.9		

TABLE 12

FORECAST OF TOTAL HOUSING NEEDS FOR 1981

VILLAGE	TO COMPENSATE FOR DOUBLE OCCUPANCY	TO REPLACE UNHYGIENIC AND UNREPAIRABLE DWELLINGS	FOR NEW HOUSEHOLDS IN 1981-82 (estimate)	TOTAL	FORECAST OF CONSTRUCTION IN 1980-81	NEEDED AT THE END OF 1980-81
KANGIQSUALUJJUAQ	4	2	3	9	--	9
KUUJJUAQ	7	7	9	23	--	23
TASIUJAQ	2	--	1	3	--	3
AUPALUK	--	10	1	11	4	7
KANGIQSUK	--	--	3	3	--	3
QUARTAQ	3	3	1	7	--	7
KANGIQSUJUAQ	1	--	3	4	--	4
SALLUIT	2	13	5	20	5	15
IVUJIVIK	--	7	2	9	--	9
AKULIVIK	10	27	2	39	4	35
POVUNGNITUK	35	11	7	53	6	47
INUKJUAK	27	14	7	48	6	42
KUUJJUARAAPIK	12	11	7	30	--	30
SUBTOTAL	103	105	51	259	25	234
ALLOWANCE FOR FIRES	--	--	--	--	--	5
TOTAL NEEDS	--	--	--	--	--	239

TABLE 13

PUBLIC HOUSING BUILT SINCE 1977 AND 1980 CONSTRUCTION FORECAST

Housing Built

VILLAGE	1977-78	1978-79	1979-80	1980-81	TOTAL NUMBER OF UNITS IN 1980-81
KANGIQSUALUJJUAQ	1	2	2	--	48
KUUJJUAQ	5	5	6	--	123
TASIUJAQ	--	--	1	--	15
AUPALUK	--	--	2	4	16
KANGIQSUK	--	--	--	--	42
QUARTAQ	--	--	1	--	27
KANGIQSUJUAQ	2	2	1	--	40
SALLUIT	7	5	6	5	85
IVUJIVIK	1	2	2	--	30
AKULIVIK	--	7	6	4	44
POVUNGNITUK	9	2	7	6	129
INUKJUAK	7	12	7	6	109
KUUJJUARAAPIK	4	--	--	--	100
TOTAL	37	37	40	25	808

Average number of housing units built between 1977 and 1981: 35.

TABLE 14

NHRP MONTHLY RENTAL RATES

A- Housing without running water	
- Matchbox Model 370	$43
- 1-bedroom	$50
- 2-bedroom	$60
- 3-bedroom	$80
- 4-bedroom	$85
- 5-bedroom	$90
B- Housing with Running Water	
- 3-bedroom	$100
- 4-bedroom	$105
- 5-bedroom	$110

SOURCE: Letter dated 77-12-13 from the Community Affairs supervisor to all Inuit Councils.

TABLE 15

MONTHLY RENTAL RATES BY AGENCY IN 1980-1981

AGENCY	1 BEDROOM	2 B.RM.	3 B.RM.	4 B.RM.	OTHER
MTPA (employee without dependents: room and board)	$90	$115	$135	---	$3/day
KATIVIK SCHOOL BOARD	$86	$130	$173	--	
SURETE DU QUÉBEC	FREE				
DEPARTMENT OF INDIAN AND NORTHERN AFFAIFS	$65 to $120 according to age, size and state of the house				
KATIVIK REGIONAL GOVERNMENT	$70 - $80	$85	$110	$175	$50 for one room without running water
MAKIVIK	$90	$200	$250	$275	$150 for studio and board
UNGAVA HOSPITAL	$1 per year				
RENTAL RATES PROPOSED BY THE MAM FOR 1981-82	$85	$118	$151	$187	

TABLE 16

NUMBER OF PUBLIC HOUSING UNITS PER VILLAGE ACCORDING TO THE NUMBER OF OCCUPANTS (79-01-01)

	Number of Occupants															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
KANGIQSUALUJJUAQ			4	4	8	7	4	6	5	2		2	1			
KUUJJUAQ	2	5	15	17	15	16	16	11	10	3	3	2	2			1
TASIUJAQ				1	2	2	4	1	1		2					
AUPALUK			1	1	1		5	1	1							
KANGIQSUK		1	2	11	7	6	6	4	4	1						
QUARTAQ	1	1	2	3	4	3	3	5	2	1						
KANGIQSUJUAQ			2	3	5	14	3	4	2	2		3			1	
SALLUIT	8		5	6	9	5	8	8	7	6	8	1	1			1
IVUJIVIK			2	4	3	4	4	1	5	1	1					
AKULIVIK	1	1	2	4	6	3	4	3	3	1	1	2				
POVUNGNITUK	3	2	9	21	23	16	14	11	9	7	4	1	4	2		
INUKJUAK	4	5	7	8	16	11	19	14	5	5	5					
KUUJJUARAAPIK	10	8	11	8	11	14	16	10	5	4	1	2	2			
TOTAL NUMBER OF UNITS	29	23	62	91	110	101	106	79	59	33	25	13	10	2	1	2
GRAND TOTAL	746 [1]															

1 No statistics are available for 4 of the 750 units available in 1979.

TABLE 17

POPULATION PROJECTIONS 1980 - 1990

(YEARLY RATE OF INCREASE: 28.5%)

YEAR	INUIT POPULATION
1979	4 873
1980	5 012
1981	5 155
1982	5 302
1983	5 453
1984	5 608
1985	5 768
1986	5 932
1987	6 101
1988	6 275
1989	6 454
1990	6 638

APPENDIX B

GRAPHS

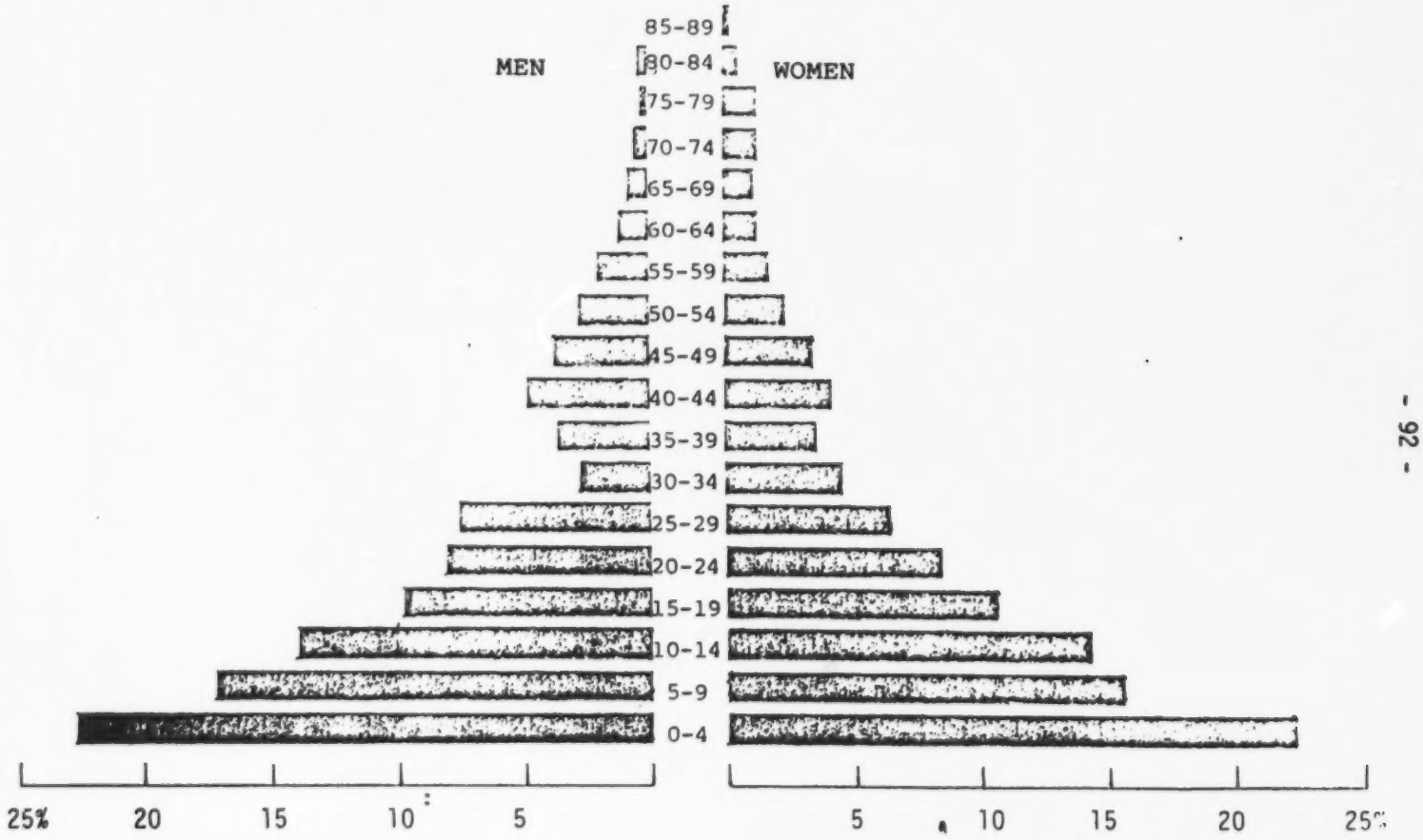
1- PYRAMID SHOWING AGES OF INUIT OF THE UNGAVA REGION - 1978

2- NUMBER OF PUBLIC HOUSING UNITS BUILT BETWEEN 1969-70 AND 1980-81

3- BAR GRAPH OF THE TOTAL NUMBER OF HOUSING UNITS ACCORDING TO THE NUMBER OF OCCUPANTS (79-01-01)

GRAPH. 1

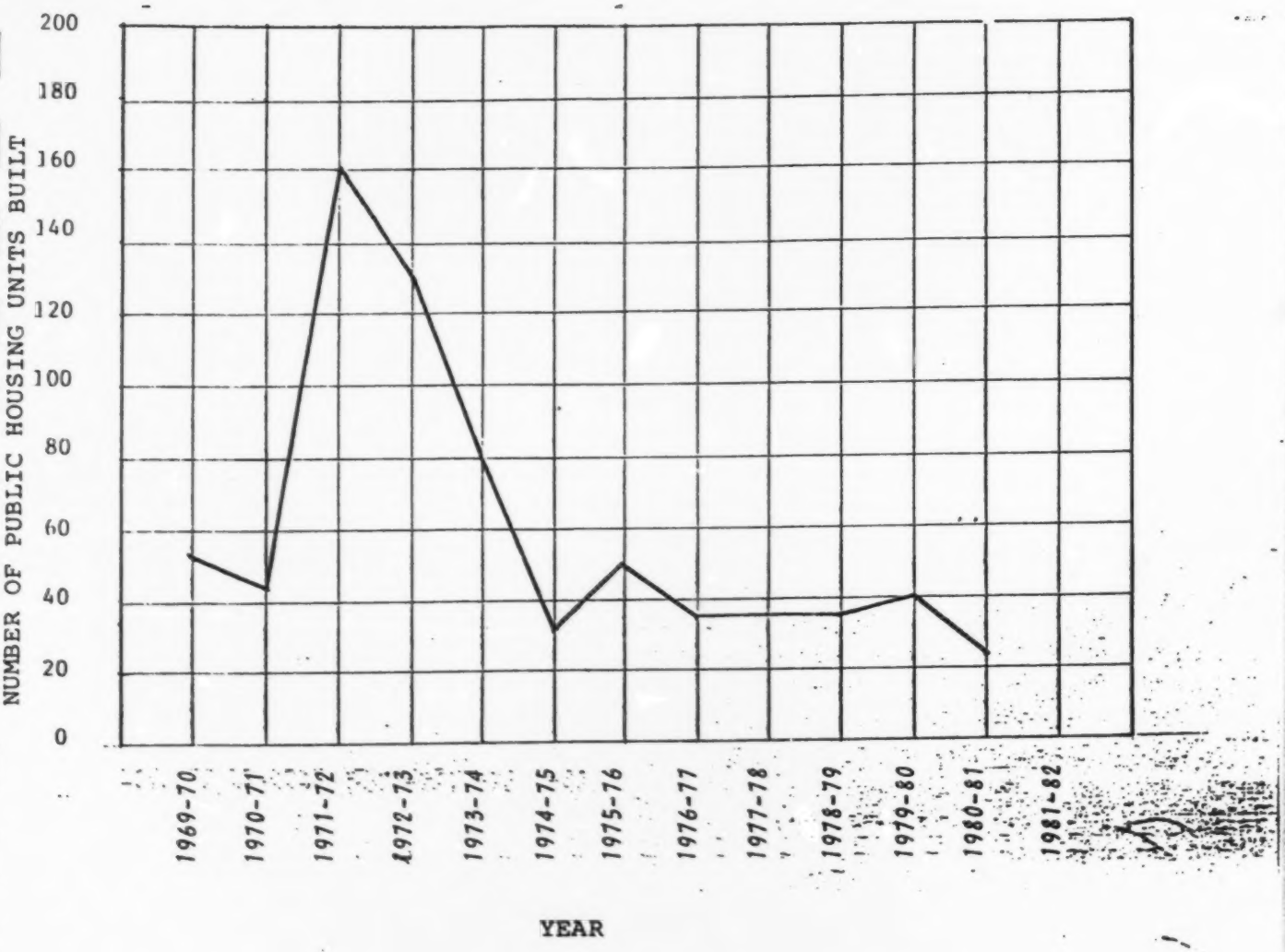
PYRAMID SHOWING AGES OF INUIT OF THE UNGAVA REGION - 1978



SOURCE: "Birth and Death Rates among the Inuit of the Ungava region of Nouveau-Québec".

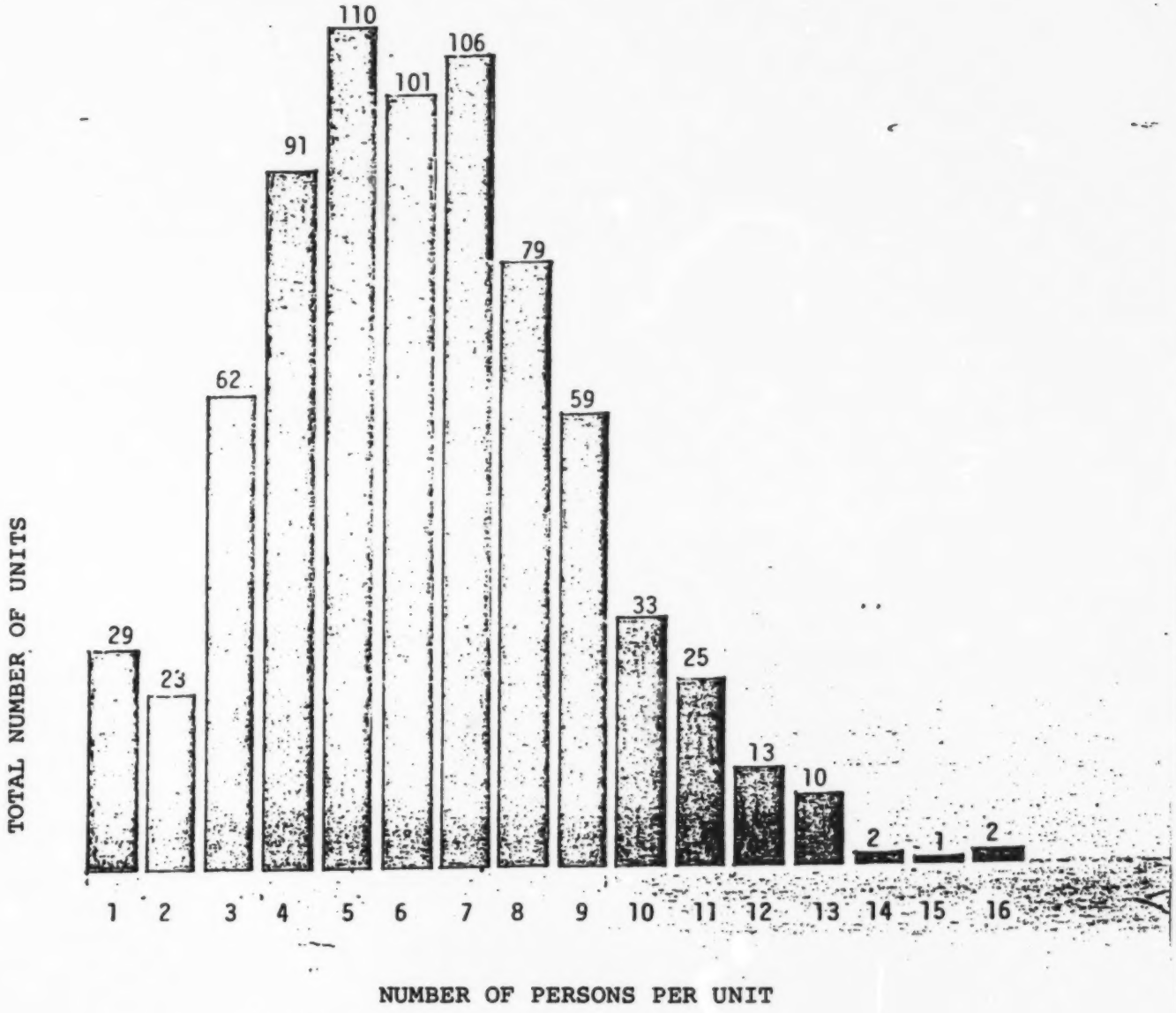
GRAPH. 2

NUMBER OF PUBLIC HOUSING UNITS BUILT BETWEEN 1969-70 AND 1980-81



GRAPH. 3

BAR GRAPH OF THE TOTAL NUMBER OF HOUSING UNITS ACCORDING TO THE NUMBER OF OCCUPANTS (79-01-01)



APPENDIX C

DEFINITIONS

APPENDIX C

DEFINITIONS

HOUSEHOLDS

A household is composed of one person or a group of persons occupying a housing unit. It can also be composed of a group of unrelated people, of two or more families sharing the same housing, or of an unattached individual. All persons belong to one household or another and the number of households is equal to the number of housing units occupied.

FAMILIES

For census purposes, a family is composed of a husband and wife with or without unmarried children (whatever their age), or of one or the other of the parents living in the same house with one or several unmarried children. For Nouveau-Québec, the term may also cover grandparents, uncles and aunts, without dependents.

NATURAL RATE OF INCREASE	This rate represents the number of live births less the number of deaths per 1 000 inhabitants.
HABITABLE ROOM	Any room in a housing unit where meals are prepared and eaten, or where occupants relax or sleep.
NON-HABITABLE ROOM	All other rooms in a housing unit, such as toilets, bathrooms, laundries, cellars, furnace-rooms, corridors, inside staircases, storage space.

APPENDIX D

1- INSPECTION REPORT ON INUIT HOUSING BY JEAN-LUC CARRIER (80-03-10)

2- REPORT OF A TOUR OF INSPECTION CARRIED OUT IN THE VILLAGES OF THE EAST COAST BY M. CUSSON AND M. MORIN (80-03-12)

APPENDIX E

MISCELLANEOUS

1- LIST OF YEARS SCHOOLS WERE OPENED BY THE FEDERAL GOVERNMENT IN DIFFERENT VILLAGES

2- DIMENSIONS OF VARIOUS MODELS FOR PUBLIC HOUSING

3- LIST OF HOMEOWNERS BY VILLAGE AS OF 80-06-01

4- CODIFICATION OF DOMESTIC COMPOSITION OF HOUSEHOLDS

APPENDIX E.1

LIST OF YEARS SCHOOLS WERE OPENED BY THE FEDERAL GOVERNMENT IN DIFFERENT VILLAGES

KUUJJUAQ	1950
INUKJUAK	1950
KUUJJUARAAPIK	1956
POVUNGNITUK	1958
SALLUIT	1958
KANGIQSUK	1960
QUARTAQ	1960
IVUJIVIK	1960
KANGIQSUJUAK	1960
KANGIQSUALUJJUAQ	1962

APPENDIX E.2

DIMENSIONS OF VARIOUS MODELS FOR PUBLIC HOUSING

MODEL	DIMENSIONS	NUMBER OF ROOMS
319	16' x 16' : 256 sq. ft.	1
370	12' x 24' : 288 sq. ft.	1
396	20' x 32' : 640 sq. ft.	3 b.rm.
436	20' x 32' : 640 sq. ft.	3 b.rm.
439	20' x 32' : 640 sq. ft.	3 b.rm.
455	24' x 30' : 720 sq. ft.	3 b.rm.
455-4	24' x 40' : 960 sq. ft.	4 b.rm.
455-5	24' x 40' : 960 sq. ft.	4 b.rm.
DGNQ	22' x 30' : 670 sq. ft.	3 b.rm.

APPENDIX E.3

LIST OF HOMEOWNERS BY VILLAGE AS OF 80-06-01

KUUJJUAQ	ABRAHAM, Nora
	WATT, Johnny
	WATT, Charlie
	WATT, Daisy
	FORD, Norman (2 houses)
	GRIST, James
	MAY, Bob M.
	MAY, Billy
	BERTHE, Alice
POVUNGNITUK	AUPALU, Tania Sr. # 227
	TULUGAK, Allie # 243
TOTAL	12 families

APPENDIX E.4

CODIFICATION OF DOMESTIC COMPOSITION OF HOUSEHOLDS

childless couple

Couple with child(ren)

No. of indivs.

House Number

			DOMESTIC COMPOSITION
1	1	1	1
2	2	2	1,1
3	3	3	1,1,1
4	4	4	1,1,1,1
5	5	5	1,1,1,1,1
6	6	6	1,1,1,1,1,1
7	7	7	1,1,1,1,1,1,1
8	8	8	1,1,1,1,1,1,1,1
9	9	9	1,1,1,1,1,1,1,1,1
10	10	10	1,1,1,1,1,1,1,1,1,1
11	1	1	1
12	2	2	1,1
13	3	3	1,1,1
14	4	4	1,1,1,1
15	5	5	1,1,1,1,1
16	6	6	1,1,1,1,1,1
17	7	7	1,1,1,1,1,1,1
18	8	8	1,1,1,1,1,1,1,1
19	9	9	1,1,1,1,1,1,1,1,1
20	10	10	1,1,1,1,1,1,1,1,1,1
21	1	1	1
22	2	2	1,1
23	3	3	1,1,1
24	4	4	1,1,1,1
25	5	5	1,1,1,1,1
26	6	6	1,1,1,1,1,1
27	7	7	1,1,1,1,1,1,1
28	8	8	1,1,1,1,1,1,1,1
29	9	9	1,1,1,1,1,1,1,1,1
30	10	10	1,1,1,1,1,1,1,1,1,1
31	1	1	1
32	2	2	1,1
33	3	3	1,1,1
34	4	4	1,1,1,1
35	5	5	1,1,1,1,1
36	6	6	1,1,1,1,1,1
37	7	7	1,1,1,1,1,1,1
38	8	8	1,1,1,1,1,1,1,1
39	9	9	1,1,1,1,1,1,1,1,1
40	10	10	1,1,1,1,1,1,1,1,1,1
41	1	1	1
42	2	2	1,1
43	3	3	1,1,1
44	4	4	1,1,1,1
45	5	5	1,1,1,1,1
46	6	6	1,1,1,1,1,1
47	7	7	1,1,1,1,1,1,1
48	8	8	1,1,1,1,1,1,1,1
49	9	9	1,1,1,1,1,1,1,1,1
50	10	10	1,1,1,1,1,1,1,1,1,1
51	1	1	1
52	2	2	1,1
53	3	3	1,1,1
54	4	4	1,1,1,1
55	5	5	1,1,1,1,1
56	6	6	1,1,1,1,1,1
57	7	7	1,1,1,1,1,1,1
58	8	8	1,1,1,1,1,1,1,1
59	9	9	1,1,1,1,1,1,1,1,1
60	10	10	1,1,1,1,1,1,1,1,1,1
61	1	1	1
62	2	2	1,1
63	3	3	1,1,1
64	4	4	1,1,1,1
65	5	5	1,1,1,1,1
66	6	6	1,1,1,1,1,1
67	7	7	1,1,1,1,1,1,1
68	8	8	1,1,1,1,1,1,1,1
69	9	9	1,1,1,1,1,1,1,1,1
70	10	10	1,1,1,1,1,1,1,1,1,1
71	1	1	1
72	2	2	1,1
73	3	3	1,1,1
74	4	4	1,1,1,1
75	5	5	1,1,1,1,1
76	6	6	1,1,1,1,1,1
77	7	7	1,1,1,1,1,1,1
78	8	8	1,1,1,1,1,1,1,1
79	9	9	1,1,1,1,1,1,1,1,1
80	10	10	1,1,1,1,1,1,1,1,1,1
81	1	1	1
82	2	2	1,1
83	3	3	1,1,1
84	4	4	1,1,1,1
85	5	5	1,1,1,1,1
86	6	6	1,1,1,1,1,1
87	7	7	1,1,1,1,1,1,1
88	8	8	1,1,1,1,1,1,1,1
89	9	9	1,1,1,1,1,1,1,1,1
90	10	10	1,1,1,1,1,1,1,1,1,1
91	1	1	1
92	2	2	1,1
93	3	3	1,1,1
94	4	4	1,1,1,1
95	5	5	1,1,1,1,1
96	6	6	1,1,1,1,1,1
97	7	7	1,1,1,1,1,1,1
98	8	8	1,1,1,1,1,1,1,1
99	9	9	1,1,1,1,1,1,1,1,1
100	10	10	1,1,1,1,1,1,1,1,1,1
101	1	1	1
102	2	2	1,1
103	3	3	1,1,1
104	4	4	1,1,1,1
105	5	5	1,1,1,1,1
106	6	6	1,1,1,1,1,1
107	7	7	1,1,1,1,1,1,1
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109	9	9	1,1,1,1,1,1,1,1,1
110	10	10	1,1,1,1,1,1,1,1,1,1
111	1	1	1
112	2	2	1,1
113	3	3	1,1,1
114	4	4	1,1,1,1
115	5	5	1,1,1,1,1
116	6	6	1,1,1,1,1,1
117	7	7	1,1,1,1,1,1,1
118	8	8	1,1,1,1,1,1,1,1
119	9	9	1,1,1,1,1,1,1,1,1
120	10	10	1,1,1,1,1,1,1,1,1,1
121	1	1	1
122	2	2	1,1
123	3	3	1,1,1
124	4	4	1,1,1,1
125	5	5	1,1,1,1,1
126	6	6	1,1,1,1,1,1
127	7	7	1,1,1,1,1,1,1
128	8	8	1,1,1,1,1,1,1,1
129	9	9	1,1,1,1,1,1,1,1,1
130	10	10	1,1,1,1,1,1,1,1,1,1
131	1	1	1
132	2	2	1,1
133	3	3	1,1,1
134	4	4	1,1,1,1
135	5	5	1,1,1,1,1
136	6	6	1,1,1,1,1,1
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139	9	9	1,1,1,1,1,1,1,1,1
140	10	10	1,1,1,1,1,1,1,1,1,1
141	1	1	1
142	2	2	1,1
143	3	3	1,1,1
144	4	4	1,1,1,1
145	5	5	1,1,1,1,1
146	6	6	1,1,1,1,1,1
147	7	7	1,1,1,1,1,1,1
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149	9	9	1,1,1,1,1,1,1,1,1
150	10	10	1,1,1,1,1,1,1,1,1,1
151	1	1	1
152	2	2	1,1
153	3	3	1,1,1
154	4	4	1,1,1,1
155	5	5	1,1,1,1,1
156	6	6	1,1,1,1,1,1
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158	8	8	1,1,1,1,1,1,1,1
159	9	9	1,1,1,1,1,1,1,1,1
160	10	10	1,1,1,1,1,1,1,1,1,1
161	1	1	1
162	2	2	1,1
163	3	3	1,1,1
164	4	4	1,1,1,1
165	5	5	1,1,1,1,1
166	6	6	1,1,1,1,1,1
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169	9	9	1,1,1,1,1,1,1,1,1
170	10	10	1,1,1,1,1,1,1,1,1,1
171	1	1	1
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173	3	3	1,1,1
174	4	4	1,1,1,1
175	5	5	1,1,1,1,1
176	6	6	1,1,1,1,1,1
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179	9	9	1,1,1,1,1,1,1,1,1
180	10	10	1,1,1,1,1,1,1,1,1,1
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183	3	3	1,1,1
184	4	4	1,1,1,1
185	5	5	1,1,1,1,1
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187	7	7	1,1,1,1,1,1,1
188	8	8	1,1,1,1,1,1,1,1
189	9	9	1,1,1,1,1,1,1,1,1
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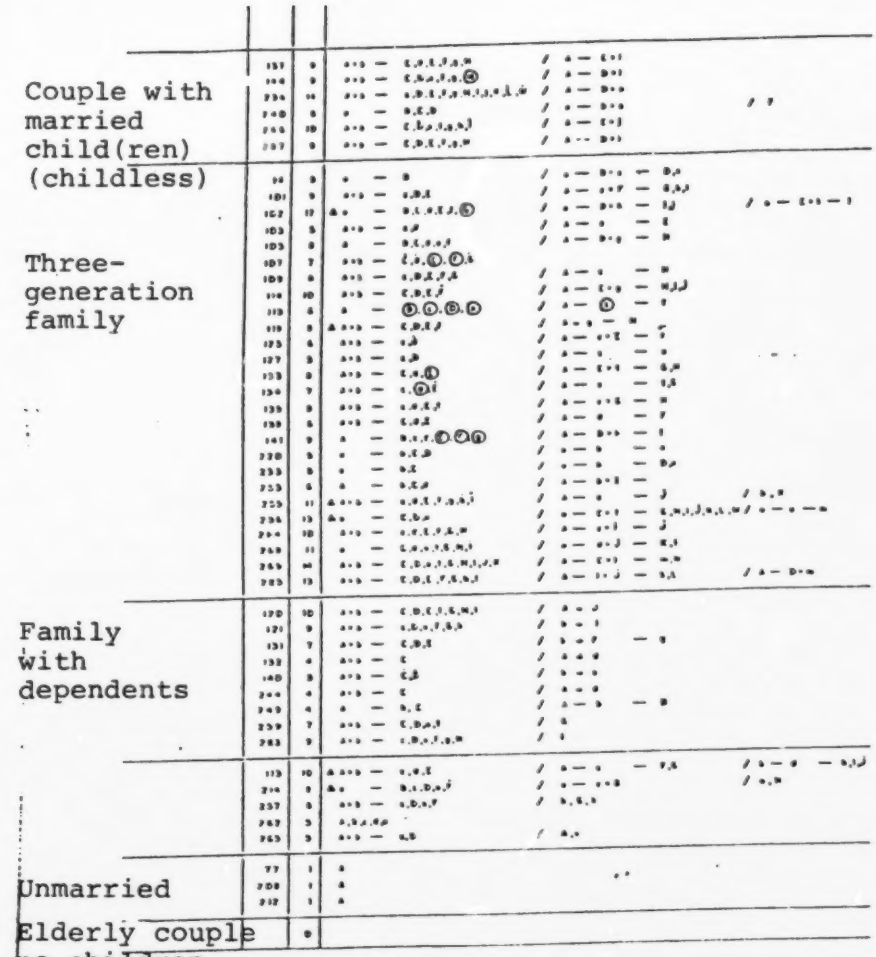
191	1	1	1
192	2	2	1,1
193	3	3	1,1,1
194	4	4	1,1,1,1
195	5	5	1,1,1,1,1
196	6	6	1,1,1,1,1,1
197	7	7	1,1,1,1,1,1,1
198	8	8	1,1,1,1,1,1,1,1
199	9	9	1,1,1,1,1,1,1,1,1
200	10	10	1,1,1,1,1,1,1,1,1,1



- RELATED BY MARRIAGE
- DESCENDANTS
- ASCENDANTS
- RELATED BY BIRTH
- MAN
- WOMAN
- ADOPTED CHILD
- GRANDCHILD

MIXED STRUCTURE
SEPARATION BETWEEN TWO NUCLEAR GROUPS

MIXED STRUCTURES

102, 233, 256:
RELATED DOMESTIC GROUP

113
3- GENERATION FAMILY

113:
FAMILY WITH DEPENDENTS

214:
COUPLE WITH MARRIED CHILD

SOURCE: Recherches Inuksiutiit, Projet nanuturliq, page 1, 1973 (Annexe)

APPENDIX F

FORECAST OF EXPECTED PUBLIC HOUSING REQUIREMENTS FOR 1981, 1985-86 AND 1990-91

APPENDIX F

FORECAST OF EXPECTED PUBLIC HOUSING REQUIREMENTS FOR 1981, 1985-86 AND 1990-91

The method given below can be used to forecast public housing requirements in Inuit Nouveau-Québec. It involves the calculation of the square footage required to meet total needs, while taking into account population increase, a standard minimum area of 161 sq. ft. per person, or 93.3 habitable square feet, and also allowing for a certain number of units to be replaced if destroyed by fire.

A- Calculation of requirements for 1981

Calculation steps are as follows:

1- Computation of the square footage available in 1980.

TYPE OF HOUSING	NO. OF HOUSING UNITS	FLOOR AREA (SQ. FT.)	TOTAL SQUARE FOOTAGE AVAILABLE
1 ROOM	105	288	30 240
2 BEDROOM	17	640	10 880
3 BEDROOM	596	720	429 120
4 BEDROOM	51	960	48 960
5 BEDROOM	8	960	7 680
3 BEDROOM (DGNQ)	6	670	4 020
TOTAL	783	——	530 900

2- Computation of the square footage available in 1981.

TYPE OF HOUSING	NUMBER	FLOOR AREA (SQ. FT.)	TOTAL SQUARE FOOTAGE UNDER CONSTRUCTION
4 BEDROOM	17	960	16 320
4 BEDROOM	8	1 290	10 320
TOTAL UNDER CONSTRUCTION			26 640

1 Square footage includes the non-habitable area.

At the end of the 1980-81 construction period, square footage available will represent:

530 900 + 26 640 = 557 540 sq. ft.

3- Computation of the sanitary square footage available in 1981.

Since one-room units are in an extremely poor state according to Table 4, the sanitary square footage available will total only:

557 540 sq. ft. - 30 240 sq. ft. = 527 300 sq. ft.
(available) (unsanitary) (sanitary)

4- Determination of 1981 requirements based on the standard of 161 sq. ft. per person.

The population in 1981 having been estimated at 5 155 (see Table 17), square footage required will be:

5 155 persons x 161 sq. ft./persom = 829 955 sq. ft.

The difference between the sanitary square footage available at the beginning of 1981 (527 300 sq. ft.), total requirements for 1981, gives the square footage to be built to meet total needs:

829 955 sq. ft. - 527 300 sq. ft. = 302 655 sq. ft.

On the basis of the floor area of housing units presently being built by the SHQ for 1980-1981 (1 290 sq. ft.), we can make an approximate estimate of the number of units required to meet total needs:

302 655 sq. ft. ÷ 1 290 sq. ft./ unit = 234 units, or, alternatively, a certain amount of renovation, including enlarging certain existing units plus the construction of some new units.

Finally, we add to our computation an annual allowance of 5 units expected to be destroyed by fire, and obtain a total requirement of 239 housing units for the end of 1981. This requirement corresponds to the figures given in Table 12, although they were obtained by a different method.

B- Determination of requirements for 1985-1986

The Inuit population will total 5 768 by 1985. Allowing for a minimum standard of 161 sq. ft. per person, a total square footage of 928 488 sq. ft. will be required to house all these people. We have estimated, in Section A.3, that there will be 527 300 square feet of sanitary footage available in 1981. Between now and 1986, 311 housing units, or 401 888 sq. ft. of housing will have to be built. When the forecast of 25 units to be replaced because of fire is added to this figure, total construction requirements by

1986 will be 336 housing units, or an average of 67 units per year.

C- Determination of requirements for 1990-1991

The Inuit population will be 6 638 by 1990, and will require 1 068 718 sq. ft. of housing. On the basis of the floor area available in 1981, 548 056 sq. ft. of housing will need to be built, or 424 housing units. The number of units to be replaced because of fire must be added to this figure, giving a total requirement of 474 housing units. A ten-year construction program would mean an average of 47 housing units per year.